

# KFH GROUP, INC.

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## Town of Chincoteague Transit Development Plan

*Final Report*

December, 2011

Under Subcontract to:  
Cambridge Systematics

*Prepared for the:*

Town of Chincoteague  
and the  
Virginia Department of Rail and Public Transportation



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# **Chapter 1**

## **Overview of Transit in the Town of Chincoteague**

### **INTRODUCTION**

The Virginia Department of Rail and Public Transportation (DRPT) has an emphasis on investing in transit systems that are meeting the existing demand for public transportation and desire to meet the growing demand for improved bus, rail, and ferry transit service through careful coordination of transit and land use planning. As such, DRPT requires that any public transit (bus, rail, ferry) operator receiving state funding prepare, adopt, and submit a Transit Development Plan (TDP) at least once every six years. DRPT provides a set of TDP requirements that form the basis of the planning effort. This report documents the Town of Chincoteague's TDP.

### **OBJECTIVE**

The objective of this task order is to assist the Town of Chincoteague with creating a TDP with a six-year planning horizon. The TDP is intended to:

- Serve as a management and policy document for the Town of Chincoteague transportation program,
- Provide DRPT with information necessary for programming and planning,
- Provide DRPT with an up-to-date record of the Town of Chincoteague's transportation program capital and operating budgets,
- Provide the Town of Chincoteague's transportation program with the basis for including capital and operating projects in the Six Year Improvement Program (SYIP), Statewide Transportation Improvement Program (STIP), and the Long Range Transportation Plan (LRTP).

This TDP will be developed to the requirements and follow the report format as stated in the DRPT TDP Requirements document.

## **BACKGROUND**

The Town of Chincoteague, Virginia, is located in Accomack County, in the far northeastern portion of Virginia's Eastern Shore. Data from the 2010 Census reveal that the Town of Chincoteague has a total area of 37.1 square miles, of which 9.6 square miles is land area. Chincoteague Island is seven miles long and one and one-half miles wide. As a "complete Town" with a single point of access across a 5 mile causeway, most of the residents' daily needs are met on the island.

Historically, the Town of Chincoteague was incorporated in 1908. Over the years the Town has seen three annexations of area with the last being in 1989. The 1989 annexation made the entire Island part of the Town of Chincoteague.

Transportation corridors that serve the Town include U.S. Highway 13 and State Route 175. Figure 1-1 displays a map of Chincoteague and the surrounding region.

During the 17th century, the Island was used for livestock grazing. By 1800, families had settled on the Island full-time. A seafood industry developed with trade to New York and Philadelphia. After completion of the causeway in 1922, the seafood trade flourished and tourists began visiting Chincoteague. Tourism increased after the completion of the bridge to Assateague in 1962 and is now the primary industry.

The 2005 - 2009 American Community Survey (ACS) indicated the leading industries for employment in the Town of Chincoteague were education services, health care and social services (21%), and arts, entertainment, recreation, accommodation, and food services (18%). The 2010 annual unemployment rate in Accomack County is 7.2% (note that the data is not seasonally adjusted), which is higher than the Commonwealth's unemployment rate of 6.3% and lower than the U.S. unemployment rate of 9.3%.<sup>1</sup>

According to the 2010 Census, Chincoteague had a population of 3,572 people, which is 11.79% lower than the 2000 population of 4,317 people.<sup>2</sup> The Town's population decline in the ten-year period was lower than that of surrounding Accomack County (13.4%), however, the Commonwealth of Virginia's population increased (13%).

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<sup>1</sup> Virginia Employment Commission, Local Area Unemployment, website.

<sup>2</sup> U.S. Census Bureau, Census 2000 and Census 2010.

Figure 1-1: Base Map of Chincoteague Island Area



Data from the 2005 – 2009 ACS indicated that the median age of Town residents was 51.2 which is older than the U.S. median age of 36.5.<sup>3</sup> Chincoteague consists of 9.6 square miles (as noted earlier), resulting in a population density of approximately 372 persons per square mile.

Public transportation via the Ride the Pony Express Trolley (referred to as Pony Express) is provided by the Town of Chincoteague, a department within the Town government. The Town of Chincoteague operates two fixed-route trolley routes for the Town.

## **HISTORY, GOVERNANCE AND ORGANIZATIONAL STRUCTURE**

### **History**

The Pony Express is the public transit service owned and operated by the Town of Chincoteague. The trolley was recommended in the Chincoteague 2020 Transportation Plan (2002); it began operating in 2004 with Demonstration Project Grant funding from the Virginia Department of Rail and Public Transportation (DRPT) and a contribution from the Town. Funding for operations has evolved to include a mix of Federal Transit Administration (FTA) Section 5311 grant funds, State DRPT assistance programs, and Town funds, as well as operating revenues from fares and advertising.

The Pony Express solely provides service on Chincoteague during the “tourist” season, while STAR Transit operates throughout Accomack and Northampton Counties, though not serving Chincoteague at this time.

### **Governance and Organizational Structure**

The Town of Chincoteague operates the Pony Express directly, and all staff members are employees of the Town. The Director of Transportation serves as the Transit Manager and oversees the dispatcher and drivers. The vehicles are housed and maintained by the Town’s Public Works Department. The Director of Transportation reports to the Town Manager and the Town Council serves as the Board for the transit program. This structure is depicted in Exhibit 1-1.

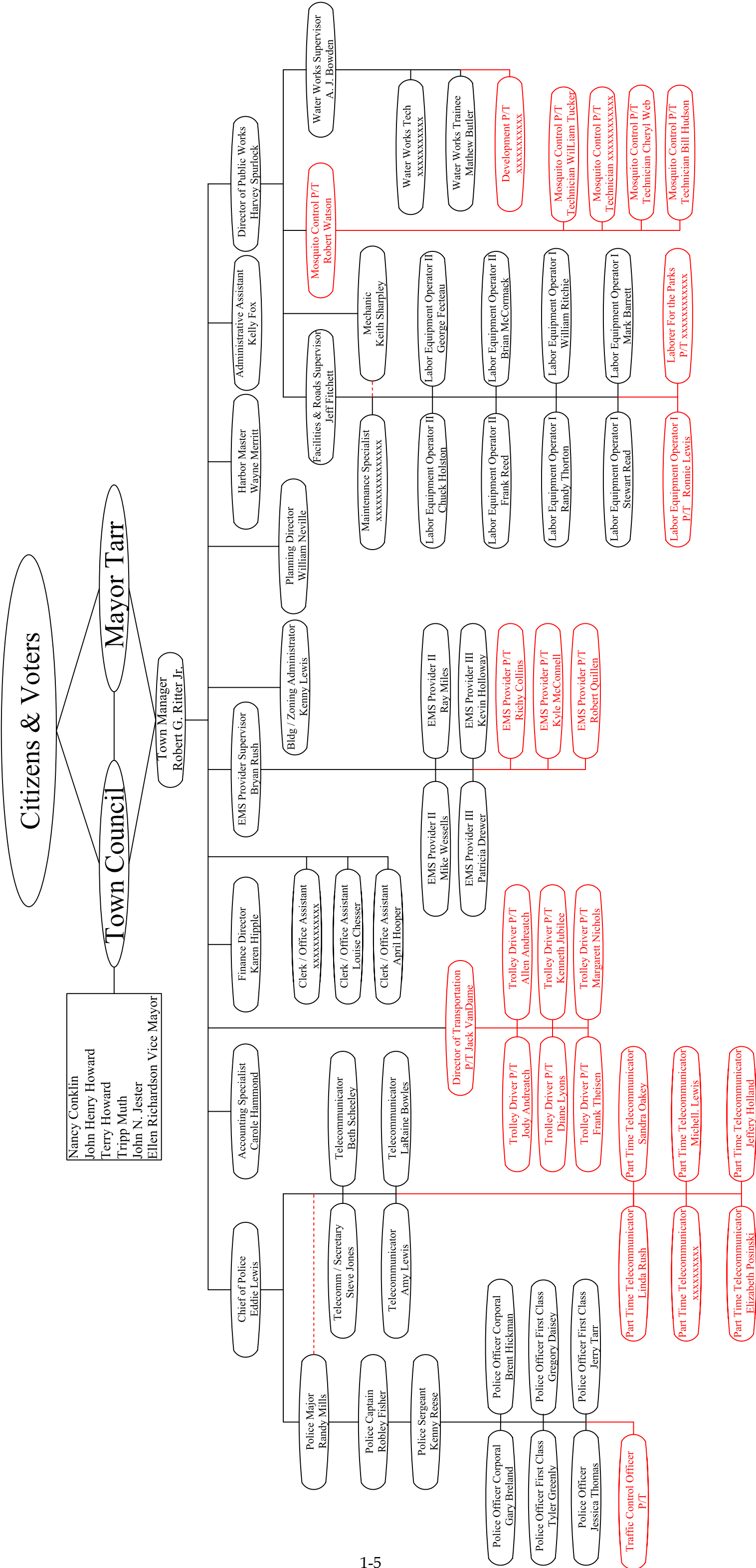
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<sup>3</sup> U.S. Census Bureau, 2005-2009 American Community Survey Fact Sheet for Chincoteague Virginia, [www.factfinder.census.gov](http://www.factfinder.census.gov).



# The Town of Chincoteague

## Organizational Chart



## **TRANSIT SERVICES PROVIDED AND AREAS SERVED**

### **Directly Operated Fixed-Route Trolley Service**

The Town of Chincoteague operates two fixed trolley routes, which can be accessed at designated stops or flagged down as needed by passengers. The routes are oriented towards transporting people to and from motels, campgrounds, retail shops, eating places, and the downtown area. These routes are described below and Exhibit 1-2 provides the schedules.

#### ***Green Route***

The Pony Express Green Route service commences Labor Day Sunday and operates from 5:00 p.m. to 10:25 p.m. For the first few weeks, service runs solely Friday and Saturday. Beginning around the third week the trolley operates both weekdays and weekends. Throughout the summer and at the end of the season in October the Green Route provides extended hours for special events held within the Town of Chincoteague. After Labor Day, service is scaled back to Friday and Saturday, concluding around the third week in October. The Green Route provides service from the Municipal Center & Community Center to Main Street, the Carnival Grounds, Memorial Park & Recreational Area, the Museum of Chincoteague Island, and the Chincoteague Chamber of Commerce. The route is timed to operate every 30 minutes, except for the Pine Grove location which is hourly.

#### ***Red Route***

The Pony Express Red Route service commences the second Saturday in June and operates Monday through Sunday, from 5:15 p.m. to 9:40 p.m. Service discontinues on the Red Route the last day of August. The Red Route provides service along a similar route as the Green Route, though it travels farther north and south on Main Street, but does not provide service as far east on Maddox Boulevard. The route is timed to operate hourly, except for service at Main Street and Church Street, and the Chincoteague Museum where service is 30 minutes.

Figure 1-2 represents a system map of the two Pony Express trolley routes and Exhibit 1-2 provided the schedules.

Figure 1-2: Chincoteague Pony Express Trolley Routes



## Exhibit 1-2: Pony Express Schedule

GREEN ROUTE EVENING HOURS ONLY											RED ROUTE EVENING HOURS ONLY										
Pine Grove	5:02		6:02		7:02		8:02		9:02		10:02	Pine Grove	5:15		6:15		7:15		8:15		9:15
Maddox Blvd. & Deep Hole Rd.	5:05	5:35	6:05	6:35	7:05	7:35	8:05	8:35	9:05	9:35	10:05	High School	5:20		6:20		7:20		8:20		9:20
Main St. & Church St.	5:08	5:38	6:08	6:38	7:08	7:38	8:08	8:38	9:08	9:38	10:08	Main St. & Church St.	5:22	5:51	6:22	6:51	7:22	7:51	8:22	8:51	9:22
Beebe Rd. & Ridge Rd.	5:13	5:43	6:13	6:43	7:13	7:43	8:13	8:43	9:13	9:43	10:13	Ocean Breeze		5:59		6:59		7:59		8:59	
Memorial Park	5:17	5:47	6:17	6:47	7:17	7:47	8:17	8:47	9:17	9:47	10:17	Beebe Rd. & Ridge Rd.	5:30		6:30		7:30		8:30		9:30
Pony Centre	5:21	5:51	6:21	6:51	7:21	7:51	8:21	8:51	9:21	9:51	10:21	Memorial Park	5:34		6:34		7:34		8:34		9:34
Oyster Museum	5:25	5:55	6:25	6:55	7:25	7:55	8:25	8:55	9:25	9:55	10:25	Oyster Museum	5:38	6:08	6:38	7:08	7:38	8:08	8:38	9:08	9:38
GREEN ROUTE Extended Hour Days: JULY: 3rd 5pm-12am, 28th 3pm-12am, 29th 7am-1pm, 30th 6am-1pm OCTOBER: 9th 10am-11pm, 16th 10am-11pm																					
CALENDAR OF OPERATION																					
MAY											JUNE										
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN
2	3	4	5	6	7	8															
9	10	11	12	13	14	15															
16	17	18	19	20	21	22															
23	24	25	26	27	28	29															
JULY											AUGUST										
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN
4	5	6	7	8	9	10															
11	12	13	14	15	16	17															
18	19	20	21	22	23	24															
25	26	27	28	29	30	31															
SEPTEMBER											OCTOBER										
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN
5	6	7	8	9	10	11															
12	13	14	15	16	17	18															
19	20	21	22	23	24	25															
26	27	28	29	30																	

## Other Public Transportation Services in the Region

The region is also served by STAR Transit which is the multi-county public transportation provider for Virginia's Accomack-Northampton Transportation District Commission (ANTDC). The two Virginia Eastern Shore counties (Accomack and Northampton) within which STAR Transit operates, encompass the geographic area of the Accomack-Northampton Planning District Commission (A-NPDC). The STAR Transit System provides bus service via three deviated fixed routes (Red, Blue, and Purple) and one demand-response route (Green). These routes serving the region are described below:

- **Blue Loop.** This route provides service connecting the Walmart (the transfer point) in Onley and travels north along US-13 to Bloxom. Seven round trips per day are offered beginning at 7:15 a.m. and ending at 5:25 p.m. with stops in Onancock, Accomac, and Parksley.
- **Red and Purple Routes.** These routes are fundamentally the same, the Red Route travels northbound and the Purple Route travels southbound. Seven trips per day are provided starting at 6:35 a.m. up until 5:45 p.m. The route travels from the Walmart transfer point in Onley along US-13 to Cape Charles. Locations served along the route include Melfa, Belle Haven, Exmore, Nassawadox, and Northampton.
- **Green Route.** This demand-response route has a service area as far north as Metomkin Medical in Gargatha and as far south as Corner Mart in Painter. STAR Transit's Green route operates from 8:00 a.m. to 2:00 p.m. with an hour mid-day break around 11:45 a.m.

Additionally, STAR Transit has received Federal Transit Administration (FTA) Section 5317 (New Freedom) funds to begin service to Chincoteague in the Spring of 2012. The service is designed to provide access for the elderly, disabled, and unemployed community on Chincoteague Island. This service will connect to STAR Transit's service along the Route 13 Business corridor. Deviated fixed-route service will be provided Monday through Friday, allowing seniors and disabled citizens the opportunity to connect to essential services.

## **Taxi and Private Transportation Providers**

There are no taxi and private transportation providers operating in the Town of Chincoteague. Though tour buses regularly bring groups for planned events and vacations to Chincoteague hotels and recreation destinations.

## **Human Service Transportation**

Human service transportation in the region is provided primarily by the Eastern Shore Area Agency on Aging/Community Action Agency (ESAAA/CAA) and the Eastern Shore Community Services Board (ESCSB). The ESAAA/CAA operates programs for the elderly, disabled, and economically disadvantaged. Programs include senior centers, Head Start, weatherization, outreach, transportation, health, housing and employment services. The ESAAA/CAA operates three centers where seniors receive medical education, routine screenings, nutritional assessments and are provided meals – transportation is provided to these locations. Additionally, seniors are transported to local stores, medical appointments, and other places based on their specific needs. The ESCSB provides prevention and behavioral health services for individuals and families by providing transportation to their day programs at facilities and Exmore and Parksley, as well as transportation to doctor appointments.

## **Medicaid Transportation**

Medicaid transportation is arranged by Logisticare for this region of Virginia.

## **Intercity Bus**

Intercity bus service is available in Oak Hall located at T's Corner. The Greyhound station located at 6491 Lankford Highway (intersection of Routes 13 and 175) is served on the New York/Philadelphia-Norfolk-Virginia Beach route. Exhibit 1-3 and Exhibit 1-4 display the northbound and southbound routes, respectively. Northbound trips from T's Corner leave at 1:05 a.m., 10:40 a.m., and 5:25 p.m., traveling to University of Maryland Eastern Shore (in Princess Anne, MD) and Salisbury, MD. Southbound trips leave T's Corner at 3:00 a.m. (stops only to discharge passengers), 4:00 p.m., and 8:50 p.m., with service to Exmore and Norfolk.

**VIRGINIA BEACH - NORFOLK - PHILADELPHIA/NEW YORK  
TABLE 420**

Carrier	SCHEDULE NUMBER		904	900	908	906
	9-7-11		NOR NYD		NOR NYD	VAB NYD
	FREQUENCY			▲ 1457	● 57	
GL	Virginia Beach, VA	LV				
	Norfolk, VA	AR				
	Norfolk, VA	LV	08:30	13:00	15:15	23:00
	Exmore, VA		09:50		16:35	00:15
	Oak Hall, VA ( <i>T's Corner</i> )		10:40		17:25	01:05
	Univ of Maryland, MD ( <i>Student Svc Ctr</i> )		11:25	15:30	18:10	D 01:45
	Salisbury, MD	AR	11:45	15:50	18:30	02:05
	Salisbury, MD	LV	12:01	16:10	18:45	02:15
	<i>Rest Stop</i>					
	Ocean City, MD					
	<i>Rest Stop (Royal Farms, DE)</i>		15"	30"	30"	15"
	Dover, DE		13:35	18:00	20:35	03:50
	Wilmington, DE	AR	14:40	19:05	21:40	04:50
	Wilmington, DE	LV	15:00	19:20	21:50	04:55
	Newark NJ	AR	D 17:10	D 21:30		D 07:10
	Newark NJ	LV	D 17:10	D 21:30		D 07:10
GL	New York, NY	AR	17:45	22:05	23:59	07:45
●	Will Operate Mon Sept 5 instead of Sun Sept 4					
▲	Will NOT operate Sun Sept 4					

**Exhibit 1-3: Northbound Greyhound Service**

**NEW YORK/PHILADELPHIA - NORFOLK - VIRGINIA BEACH  
TABLE 420**

Carrier	SCHEDULE NUMBER		903	909	905	901
	9-7-11		NYD NOR	NYD NOR	NYD NOR	NYD NOR
	FREQUENCY			▲ 1457		● 57
GL	New York, NY	LV	08:30	13:45	20:30	22:00
	Newark, NJ	AR	09:00	14:15	20:55	22:30
	Newark, NJ	LV	09:05	14:20	21:00	22:35
	Wilmington, DE	AR	11:20	16:35	23:15	D 00:45
	Wilmington, DE	LV	11:35	16:50	23:30	
	Dover, DE		12:40	17:55	00:45	D 01:35
	<i>Rest Stop (Royal Farms DE)</i>		30"	20"	15"	15"
	Ocean City, MD					
	<i>Rest Stop</i>					
	Salisbury, MD	AR	14:30	19:35	02:05	03:05
	Salisbury, MD	LV	14:45	19:50	02:05	03:05
	Univ of Maryland, MD ( <i>Student Svc Ctr</i> )		15:15	20:10	02:25	
	Oak Hall, VA ( <i>T's Corner</i> )		16:00	20:50	D 03:00	
	Exmore, VA		16:50	21:40	03:45	
	Norfolk, VA	AR	✕ 18:20	22:55	05:00	05:45
	Norfolk, VA	LV				
GL	Virginia Beach, VA	AR				
●	Will Operate Mon Sept 5 instead of Sun Sept 4					
▲	Will NOT operate Sun Sept 4					

**Exhibit 1-4: Southbound Greyhound Service**

## Amtrak

The closest Amtrak service to the Town of Chincoteague is along the Northeast Regional route, which has a station in Virginia Beach. The route connects Virginia Beach to Boston via Richmond, Washington, DC, Baltimore (MD), Philadelphia (PA), New York (NY), and New Haven (CT).

## FARE STRUCTURE

The fare for the Pony Express trolley is \$0.25 per trip. There are no transfers offered.

## VEHICLE FLEET

The Town of Chincoteague's current public transit vehicle fleet includes three 26-passenger trolleys and one minivan. All of the revenue service vehicles are lift-equipped. Table 1-1 provides a summary of the vehicle inventory. Figure 1-3 provides an example of a Pony Express trolley.

**Table 1-1: Town of Chincoteague Transit Vehicle Inventory**

VIN	Model Year	Manufacturer	Model and Type	Seating Capacity	Wheel-chair Stations	Use	Mileage
4UZAACBWX2CK14530	2003	Freightliner	Trolley	26	2	Back-Up	138,154
1F6NF53S340A10898	2004	Ford	Trolley	26	2	Regular Route	42,248
1F6NF53S540A10899	2005	Ford	Trolley	14	2	Regular Route	42,970
1D4GP24E07B176673	2007	Dodge	Minivan	5	4	Route Deviations	31,270





**Figure 1-3: Pony Express Trolley**

## **FACILITIES**

### **Buildings**

The vehicles are housed and maintained at one of the buildings in the Town's Municipal Complex and Community Center. The front of this complex is shown in Figure 1-4. The Town of Chincoteague performs preventive maintenance on the trolleys through a work order process. Once a year the vehicles are taken to a bus terminal where heavy maintenance is performed on the trolleys – air conditioners, wheel-chair lifts, etc.



**Figure 1-4: Town of Chincoteague Municipal Complex and Community Center**

### **Bus Stops and Passenger Amenities**

The Pony Express trolley system has 24 stops, all with trolley signs. A number of the stops also include a bench with an overhead shelter.

## **SAFETY AND SECURITY**

The Town of Chincoteague's Pony Express does not have a separate defined transit safety and security policy, though drivers have procedures on securing the vehicle and extinguishing fires. The Town of Chincoteague has an Emergency Operations Plan which includes the Pony Express and its vehicles as resources available for evacuation or other emergency situation.

## **PUBLIC OUTREACH**

Since the Pony Express is part of the Town government, the main forum for public input is Town Council meetings, which are conducted each month and are open to the public. The Town of Chincoteague also has a link to its Trolley Brochure on the Town's website homepage that include the hours, the schedule, the fare, and contact information. Additionally, local merchants purchase trolley tokens and in turn hand them out to customers as both an incentive for their patronage, as well as to encourage ridership. The themed trolley and stop shelters have become part of the community identity and summer visitor experience. Riding the trolley to get ice cream for residents and tourist alike becomes entertainment as much as transit.



## **Chapter 2**

# **Goals, Objectives, and Standards**

This section presents the Town of Chincoteague's goals and objectives for the Pony Express Trolley. It articulates the issues that were considered during the kick-off meeting with the Transit Advisory Panel, and builds off of the Town of Chincoteague's 2010 Comprehensive Plan. This chapter also provides a discussion of performance standards. These standards are critical for addressing both the efficiency and effectiveness of the services provided by the Town of Chincoteague.

### **INTRODUCTION**

The mission of the Pony Express is "Sit back and enjoy the ride", as noted on the Riders Guide. The intent is to provide safe, dependable, and economical transportation services to its transit system passengers. The Town of Chincoteague has had various goals over the years, but does not have an adopted set of goals for the program. It is important that the transit system have specific goals, objectives, and service standards to help guide the system and objectively measure if the system is accomplishing its mission.

### **Goals and Objectives**

Goals are broad and general, providing policy guidance as to how the transit system's mission should be accomplished. Objectives provide more specific and tangible direction as to how transit goals can be met. The following transportation goals and objectives were identified in the 2010 Comprehensive Plan:

- Provide for the safe and efficient movement of people and goods.
- Provide safe, efficient, reliable transportation for many modes of transportation.

At the kick-off meeting, the Director of Transportation reported that the system had fulfilled the original goals and objectives from the previous transportation plan. This list included:

- Renaming the system,
- Building trolley stands,
- Hiring new drivers,
- Color brochure, and
- Optimal ridership level.

## PROPOSED GOALS, OBJECTIVES, AND STANDARDS

Currently, the Town of Chincoteague does not have an adopted set of goals and objectives for the program. At the initial meeting for the project between Town staff, local stakeholders, and KFH Group staff, the following goals and objectives for the transportation program were drafted through the TDP process:

**Goal:** *Offer convenient access to medical facilities, employment areas, shopping, and community agencies.*

**Objectives:**

- Provide route deviation fixed-route service to employment opportunities for Town and seasonal residents.
- Increase the hours the service operates.
- Explore expanding the number of months the service operates.
- Examine ways to modify the routes to cover more areas of the Town.

**Goal:** *Provide adequate mobility options that enable Town residents to maintain personal independence and be engaged in civic and social life.*

**Objectives:**

- Examine ways to provide better transportation options for residents which would also benefit tourists.
- Strengthen coordination and explore partnerships between the Town of Chincoteague and Accomack-Northampton Transportation District Commission (STAR Transit).

**Goal:** *Manage, maintain, and enhance the existing public transportation system to ensure safe and reliable transportation services.*

**Objectives:**

- Compile and analyze reference information that can provide objective data for making route changes.
- Continue to maintain the fleet in accordance with the manufacturer's recommended maintenance schedules.
- Replace vehicles and equipment as recommended by DRPT's useful life criteria.
- Monitor system safety and take corrective actions if necessary.
- New/increased marketing of the service.
- Help improve the environment by offering transportation alternatives beyond the automobile.

## SERVICE STANDARDS

Service standards are benchmarks by which service performance is evaluated. Service standards are typically developed in several categories of service, such as service coverage, passenger convenience, fiscal condition, and passenger comfort. The most effective service standards are straightforward and relatively easy to calculate and understand.

The Town of Chincoteague does not currently have defined service standards for the Pony Express. There are several basic service standards that the Town of Chincoteague could use to help evaluate service on a regular basis to ensure that the Pony Express is carrying out its mission in the most effective manner possible.

Performance standards that are useful for urban fixed-route transit programs are not relevant for a seasonal tourist dominated transit program. As such, this section presents service standards suggested for the Town of Chincoteague. Some of the standards are policy-oriented and will need to be further discussed among stakeholders. Other measures are data-driven and were calculated as part of the detailed analyses of routes and services (Chapter 3).

Table 2-1 presents these baseline performance measures, along with two additional more qualitative measures. These baseline measures consider the most current (FY10) performance. It should be noted that there are important considerations that affect the Town of Chincoteague's trolley's ability to become more productive: the size of the service area (traffic plays a large role due to the "island effect"); the distribution of "living" areas and destination areas; and the patterns of the riders' trips.

**Table 2-1: Service Standards**

Category	Standard
<b>Productivity</b>	
<ul style="list-style-type: none"> <li>Passenger Trips Per Revenue Hour</li> </ul>	Review and modify, if warranted, routes between 60% and 80% of average Average is currently 12.2 trips per revenue hour
<b>Cost Efficiency</b>	
<ul style="list-style-type: none"> <li>Operating Cost Per Revenue Hour</li> </ul>	Review and modify, if warranted, routes between 60% and 80% of average Average is currently \$64.98 per trip
<b>Cost Effectiveness</b>	
<ul style="list-style-type: none"> <li>Operating Cost Per Passenger Trip</li> </ul>	Review and modify, if warranted, routes between 60% and 80% of average Average is currently \$5.31 per trip
<b>Safety</b>	
<ul style="list-style-type: none"> <li>Safety Incidents per 100,000 miles</li> </ul>	.10 or fewer "reportable incidents" per 100,000 miles, as defined by the National Transit Database. A reportable incident is one in which one or more of the following conditions apply: <ul style="list-style-type: none"> <li>A fatality</li> <li>Injuries requiring medical attention away from the scene for one or more persons</li> </ul> Property damage equal to or exceeding \$25,000*
<b>Qualitative Standards</b>	
<ul style="list-style-type: none"> <li>Revenue Equipment</li> </ul>	<ul style="list-style-type: none"> <li>Working air conditioning; and vehicles are clean and in good condition</li> </ul>
<ul style="list-style-type: none"> <li>Public Information</li> </ul>	<ul style="list-style-type: none"> <li>Timetable, maps, and website are current and accurate</li> </ul>

\*National Transit Database, 2010 Rural Reporting Manual.



## **PROCESS FOR DEVELOPING AND UPDATING GOALS, OBJECTIVES, AND SERVICE STANDARDS**

These draft goals, objectives, and service standards were developed as a component of the 2011 Transit Development Plan for the Town of Chincoteague. The system did not previously have these measurement tools in place. As such, it is recommended that the Town of Chincoteague examine these goals, objectives, and service standards on an annual basis to ensure that they are appropriate and in keeping with what the system is experiencing. If additional goals are envisioned, or if specific goals, objectives, or standards are no longer appropriate, represent under-achievement, or cannot be reasonably attained, the Town of Chincoteague staff can update these measures to reflect new circumstances.

In addition to an in-house staff review of these measurement tools, it is also recommended that the Transit Advisory Committee (the creation of which is a recommendation of this TDP) also review the goals, objectives, and service standards annually, following the Town of Chincoteague staff review. It is recommended that this annual review take place as part of the grant preparation cycle. Any changes for these measurement tools can be included in the annual TDP update.



## **Chapter 3**

# **Service and System Evaluation and Transit Needs Analysis**

### **INTRODUCTION**

This section of the TDP focuses on two primary analyses. The first area of focus is a description and comprehensive analysis of the recent performance of the Town of Chincoteague's Pony Express, including a trend analysis, peer analysis, boarding/alighting study, and a passenger survey. The second area of focus provides an analysis of transit needs and includes demographic and land use analyses, a review of relevant studies and plans, and a discussion of stakeholder input.

### **SERVICE AND SYSTEM EVALUATION**

#### **Trend Data**

The operating statistics and performance measures for the Town of Chincoteague's Pony Express Trolley are shown in Table 3-1 and Figures 3-1 through 3-4, as reported by the Town. As these data show, annual revenue hours have increased 4.7% from FY 2006 to FY 2010, with vehicle revenue miles increasing by 4.3%. Ridership also has increases over this period. The associated operating expenses have increased by 14.1% over the five year period. The FY 2010 cost per hour for the Pony Express was \$64.98, which is lower than the previous two fiscal years, FY 2008 and FY 2009, but higher than in FY 2006 and FY 2007. The Pony Express cost per hour is much higher than other rural Virginia systems, however it is very similar to other beach tourist trolleys in the country which are identified in the peer review section. The FY 2010 cost per trip for the Pony express was \$5.31, which is very similar to other rural Virginia systems and much lower than the other beach trolley systems reviewed.

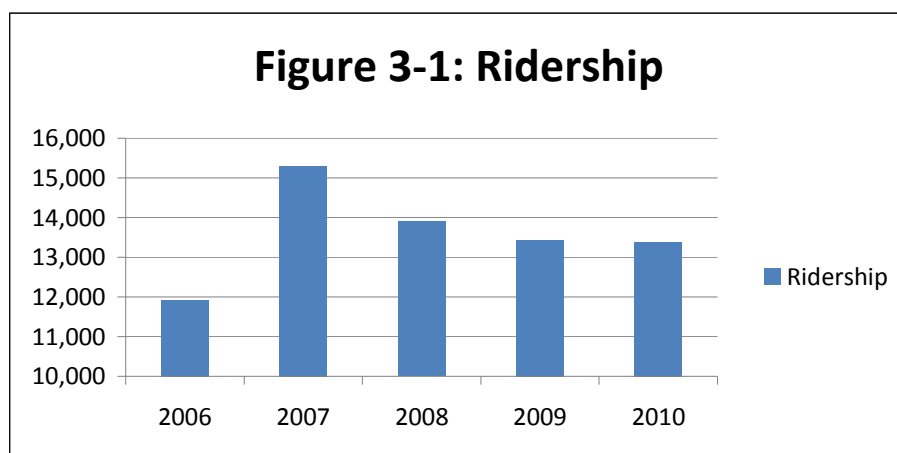
**Table 3-1: Town of Chincoteague Pony Express Operating Statistics and Performance Measures**  
FY 2006-2010

Year	Ridership	Revenue Hours	Revenue Miles	Trips Per Revenue Hour	Trips Per Revenue Mile	Miles Per Hour
2006	11,917	1,044	15,076	11.41	0.79	14.44
2007	15,295	1,168	17,066	13.10	0.90	14.61
2008	13,903	1,133	15,777	12.27	0.88	13.92
2009	13,435	1,046	15,984	12.84	0.84	15.28
2010	13,376	1,093	15,720	12.24	0.85	14.38

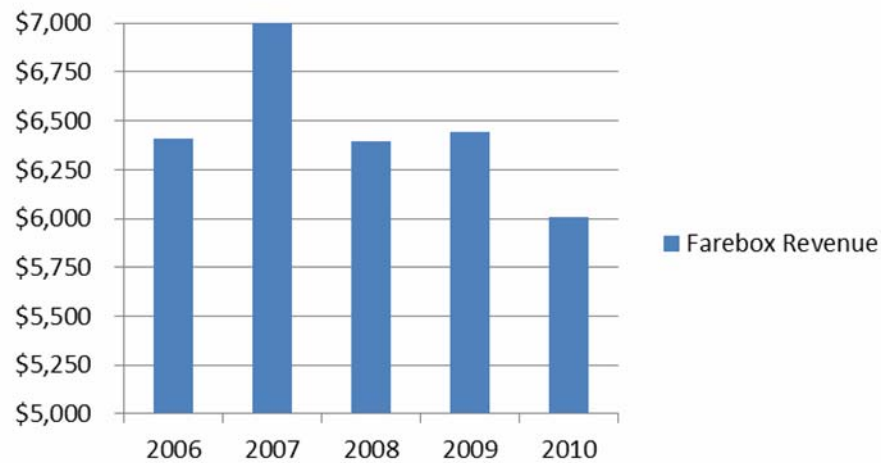
  

Year	Operating Expenses	Fare Revenue	Cost Per Trip	Cost Per Hour	Cost Per Mile	Farebox Recovery
2006	\$65,260	\$6,410	\$5.48	\$62.51	\$4.33	10%
2007	\$68,055	\$7,465	\$4.45	\$58.27	\$3.99	11%
2008	\$74,910	\$6,397	\$5.39	\$66.12	\$4.75	9%
2009	\$74,670	\$6,444	\$5.56	\$71.39	\$4.67	9%
2010	\$71,023	\$6,004	\$5.31	\$64.98	\$4.52	8%

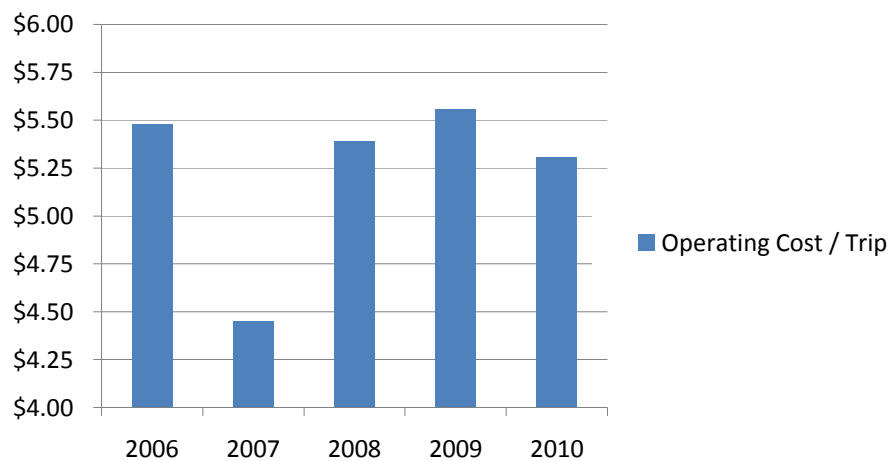
Source: Town of Chincoteague.

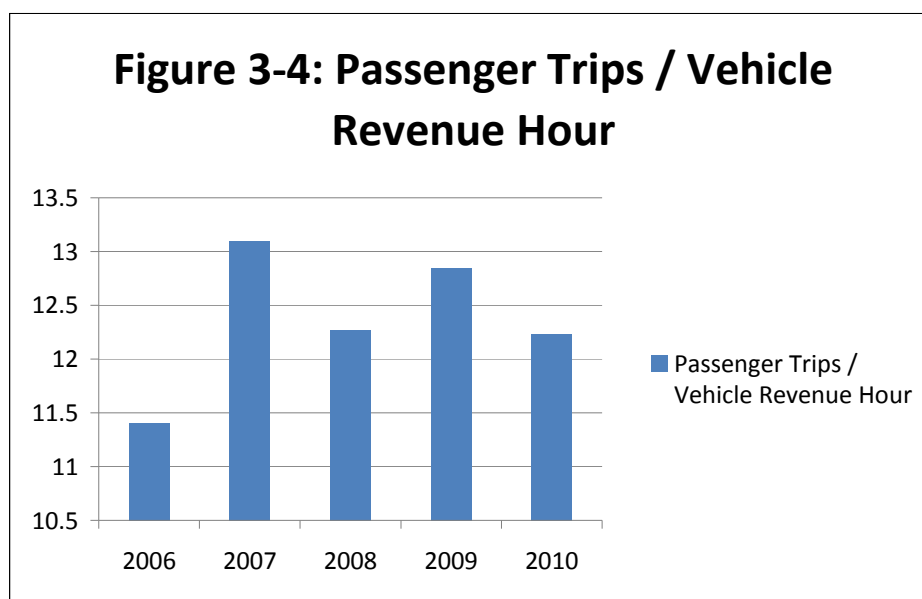


**Figure 3-2: Farebox Revenue**



**Figure 3-3: Operating Cost / Trip**





## Peer Review

While it is most relevant for a transit agency to examine its own performance over time, it is valuable to know the operating statistics for transit programs that could be considered “peers,” in terms of location, service area characteristics, or size. The study team used FY 2008 data from the *Virginia Transit Performance Report* for this analysis, choosing peers that provided fixed-route service in relatively small Virginia towns, with similar annual service area population. Additionally, two Florida systems were chosen that provide trolley service in tourist communities. This data was gathered from the 2010 *Florida Transit Handbook*, a publication of the Florida Department of Transportation and reflects data from 2009. These systems include:

- Lake Country Public Transportation (Florida)
- Town of Bluefield – Graham Transit
- Blackstone Area Bus (BABS)
- Hernando Express Bus (Florida)
- Farmville Area Bus

The results of this peer review are presented in Table 3-2 and Figures 3-5 through 3-9. Although the Town of Chincoteague’s Pony Express is somewhat “peerless”, each of the systems reviewed offers some similarities for analysis purposes.

**Table 3-2: FY 2008 Peer Data**

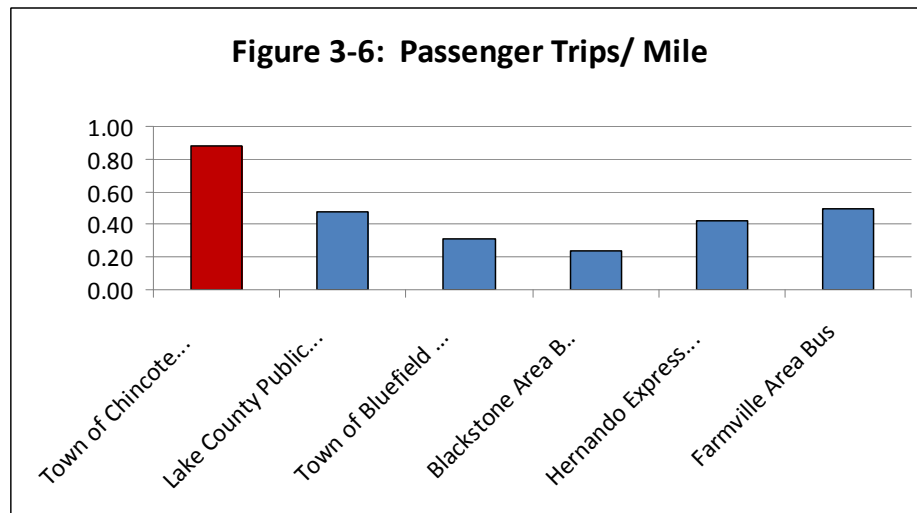
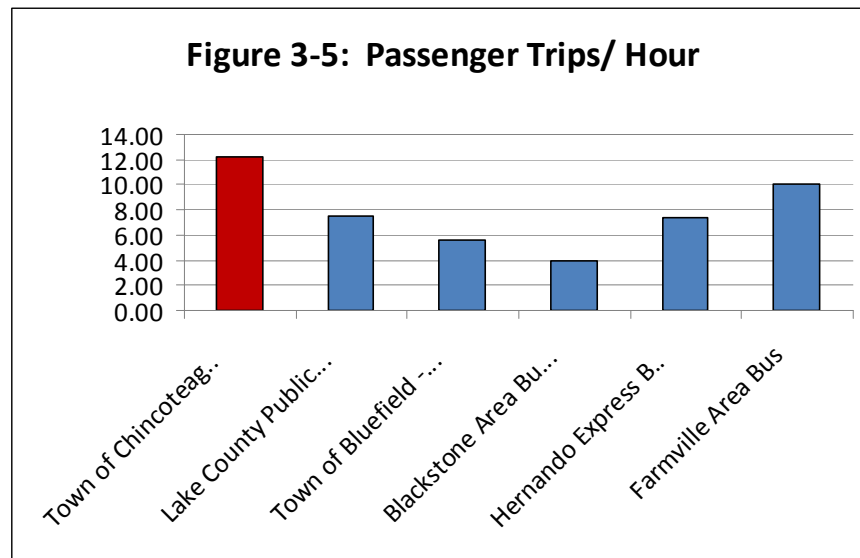
Transit Program	Active Vehicle Fleet	Service Area Population	Vehicle Revenue Hours	Vehicle Revenue Miles	Passenger Miles	Passenger Trips	Operating Expenses	Fare Revenue	Farebox Recovery
Town of Chincoteague (Island Trolley)	3	4,000	1,133	15,777	69,515	13,903	\$ 74,910	\$ 6,397	8.5%
Lake County Public Transportation (Florida)*	7	97,497	20,828	331,978	1,059,688	156,972	\$ 1,784,224	\$ 89,568	5.0%
Town of Bluefield - Graham Transit	4	6,000	7,240	132,000	132,000	40,754	\$ 210,389	\$ 10,637	5.1%
Blackstone Area Bus (BABS)	8	6,000	4,440	75,143	21,292	17,744	\$ 131,143	\$ 8,225	6.3%
Hernando Express Bus (Florida)*	6	164,907	17,491	304,991	605,030	129,197	\$ 1,463,297	\$ 81,652	5.6%
Farmville Area Bus	14	7,372	11,364	230,595	n/a	114,964	\$ 567,844	\$ 13,055	2.3%
Mean	7.0	47,629	10,416	181,747	314,588	78,922	\$ 705,301	\$ 34,922	5%

Transit Program	Trips/ Hour	Trips/ Mile	Cost/ Hour	Cost/ Mile	Cost/ Trip
Town of Chincoteague (Island Trolley)	12.27	0.88	\$ 66.12	\$ 4.75	\$ 5.39
Lake County Public Transportation (Florida)*	7.54	0.47	\$ 85.66	\$ 5.37	\$ 11.37
Town of Bluefield - Graham Transit	5.63	0.31	\$ 29.06	\$ 1.59	\$ 5.16
Blackstone Area Bus (BABS)	4.00	0.24	\$ 29.54	\$ 1.75	\$ 7.39
Hernando Express Bus (Florida)*	7.39	0.42	\$ 83.66	\$ 4.80	\$ 11.33
Farmville Area Bus	10.12	0.50	\$ 49.97	\$ 2.46	\$ 4.94
Mean	7.82	0.47	\$ 57.33	\$ 3.45	\$ 7.60

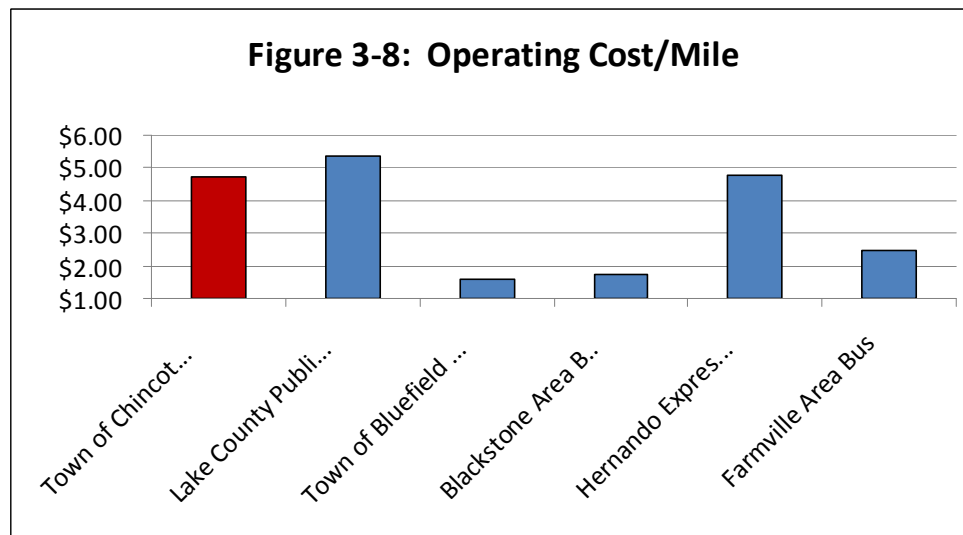
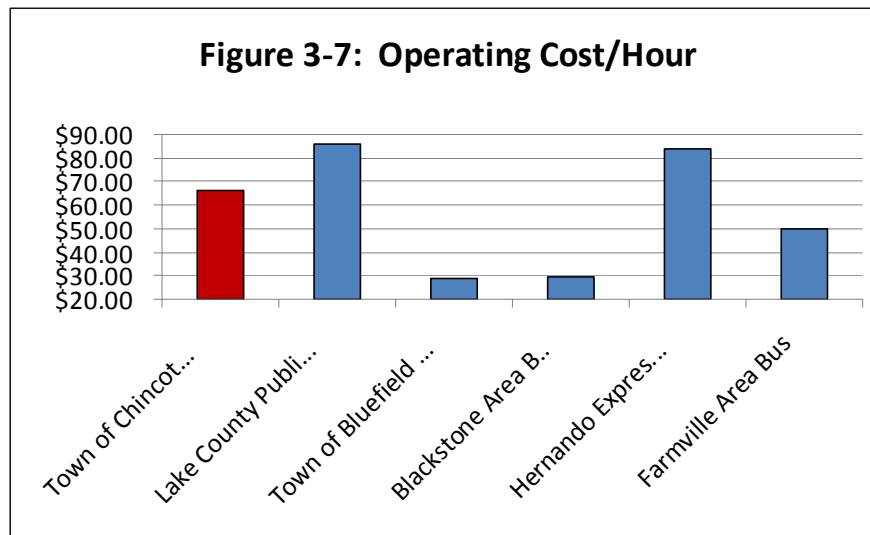
**Source: Virginia Transit Performance Report, FY 2008 Data**

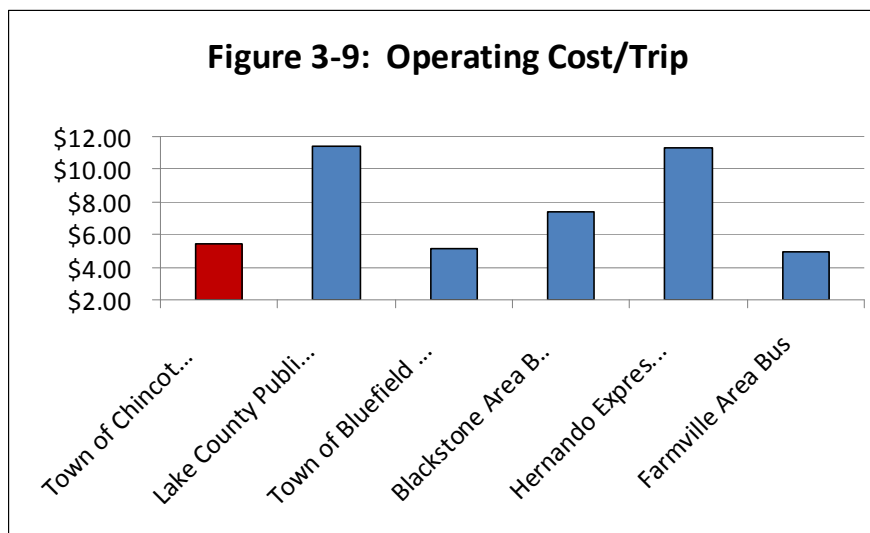
- Operating Data and Performance Indicators from "Public Transportation Fixed Route, Route Deviation, and Demand Reponse Services" category
- Operating Expenses and Fare Revenue are systemwide

\*Information from the 2010 Florida Transit Handbook, a publication of the Florida Department of Transportation. Reflects data from 2009.









The review of the peer data in regard to productivity indicates that the Town of Chincoteague's Pony Express:

- Exceeds all of the peer systems in regard to trips per hour with 12.27 trips, compared to an average rate of just 7.82 passenger trips per hour. This statistic may correlate with the compactness of Chincoteague Island's service area, but also the popularity of the service.
- Chincoteague Island Trolley had the highest farebox recovery rate among the selected peer systems. Chincoteague Island covered 8.5% of its operating costs with farebox revenue, compared to an average of just 5% for the complete list of peer systems.
- At 0.88, Chincoteague Island's rate of passenger trips per vehicle mile traveled is nearly twice the average rate of the peer group. In terms of the number of passengers served per mile driven, this statistic reveals that the Pony Express is vastly outperforming the selected peer group.
- Cost per hour was \$66.12 and the cost per vehicle mile was \$4.75. While these numbers are substantially higher than the peer systems in Virginia, they are slightly lower than similar systems in Florida. Compared to the other Virginia systems, the higher cost per hour and per mile may reflect that Chincoteague provides a seasonal service and that some operating costs, such as maintenance and real property rental, may be relatively higher for shorter periods of time.

- Operated in an area with a smaller population base than any of the peer systems, though this is offset by the high seasonal population influx.

## Route Evaluation

This section of the report provides an overview of the system's daily ridership as well as detailed analyses for each fixed-route and stop, using data collected by KFH Group in August, 2011. On Thursday, August 11 through Saturday, August 13, KFH Group conducted boarding and alighting passenger counts on the Town of Chincoteague's Pony Express' two routes. KFH Group staff rode all of the runs on the two routes, noting how many passengers boarded and alighted at each of the named stops, as well as at flag stops. These data are presented below.

### Green Route

The Pony Express Green Route experienced the highest ridership on the days of the counts, recording a total stop activity of 684 passengers (boardings/alightings). With 5.5 revenue hours provided per day (a total of 16.5 revenue hours for the three days), this level of ridership (342 boardings) equates to 20.73 passenger trips per revenue hour, the highest productivity of the two routes.

Figure 3-10 provides a map of the Green Route, depicting ridership by stop. As the map indicates, Island Creamery, Don's Seafood, and Main & Cropper/Bookstore were the busiest stops, each recording at least 55 boardings/alightings. Ten other stops had activity of at least 25 passengers. Over the course of the service span there were two ridership peaks. These were at 7:35 p.m. and at 9:00 p.m. Ridership by time of day is shown in Figure 3-11.

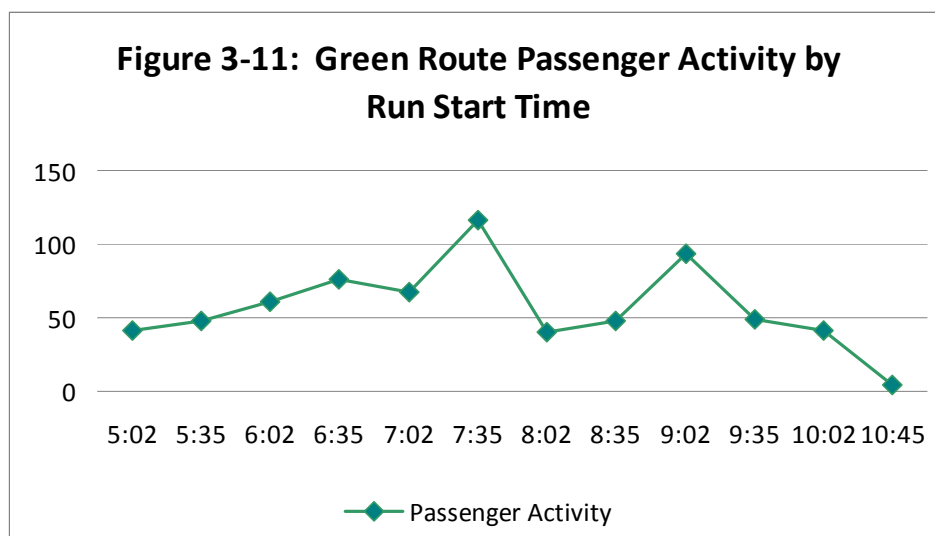


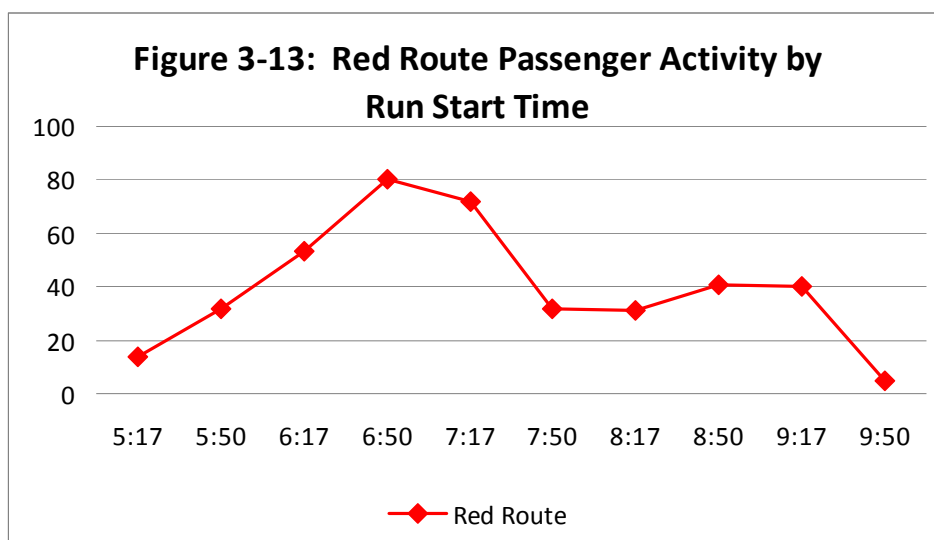
Figure 3-10: Green Route Passenger Activity



### Red Route

The Red Route, following primarily the same route as the Green Route, experienced slightly lower ridership than the Green Route, due to shorter span of service as well as from the fact that the route alternates its path every other run. The Red Route experienced a total stop activity of 400 passengers (boardings/alightings) over the three day count. With roughly 4.5 revenue hours provided per day (a total of 13.5 revenue hours for the three days), this level of ridership (200 boardings) equates to 14.82 passenger trips per revenue hour, which is still a very high productivity rate.

Figure 3-12 provides a map of the Red Route, depicting ridership by stop. As the map indicates, the highest ridership stops were the Island Creamery, Don's Seafood, Main & Cropper/Bookstore, Tom's Cove Camp Ground, Memorial Park, and the Golf Course (southside)/Maria's which all had activity of at least 30 boardings/alightings. Ridership by time of day is shown in Figure 3-13 and reveals that the peak service time is around 7:00 p.m.



### Overall

There were 342 total passenger trips for the Green Route and 200 total passenger trips for the Red Route on the days of the boarding/alighting counts. This passenger count equates to 17,840 annual passenger trips, assuming 113 days of service on the Green Route, and 74 days of service on the Red Route. This ridership level would signify a 33% increase in Pony Express ridership. This large increase is based on the fact that the on/off counts and analysis was performed during the peak period of the tourist season to capture the highest ridership totals.

Figure 3-12: Red Route Passenger Activity



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## USER/STAKEHOLDER/PUBLIC INPUT

An important task within the Town of Chincoteague TDP process was the acquisition of more information about current public transportation trip patterns, rider characteristics, rider satisfaction with the service, and suggestions for service improvements. In order to collect these data, an on-board rider survey was conducted as well as stakeholder interviews.

### On-Board Rider Survey

To supplement the review of existing planning documents, this needs analysis included a survey to better understand the travel behavior, level of satisfaction, and motivation behind riders of the transit system. An analysis of the survey results may show existing or perceived gaps in the transit system as well as general suggestions from the riders that the agency may take note of to improve quality or increase ridership.

The surveys were administered on August 11 through August 13, 2011. Survey participants were trolley riders who completed a one-page survey, distributed and collected by KFH Group staff on August 11<sup>th</sup> – 13<sup>th</sup>, during their trip. The participants were instructed to only complete one survey. A copy of the questionnaire is provided as Appendix A. The results of the survey are described in detail in Table 3-3 offering an overview of these findings.

The study team conducted this survey in an effort to gather the opinions of riders of the trolley system as well as to determine any unmet transit needs their responses may reveal. During these three days of survey administration, a total of 110 surveys were completed by fixed-route riders.

#### *Trip Patterns of Surveyed Riders*

The Town of Chincoteague Pony Express on-board rider survey was completed by 110 passengers. Almost two-thirds of the surveys received were from the Green Route (65.5%) compared to the Red Route (34.5%).

The first part of the survey helped determine the general travel behavior of Chincoteague Trolley riders:

- According to the survey responses, the three most common origins for riders to board the bus were Memorial Park, Don's Seafood, and the Chincoteague Museum.

**Table 3-3: Town of Chincoteague On-Board Rider Survey**

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Surveying conducted from Thursday, August 11th, 2011 through Saturday, August 13th, 2011

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**Q1: What route are you currently riding?**

Green Route:	<u>65.5%</u>	Red Route:	<u>34.5%</u>
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**Q2: What was the location where you boarded the trolley?**

#1:	<u>Memorial Park (10)</u>
#2:	<u>Don's Seafood (9)</u>
#3:	<u>Museum (8)</u>
#4:	<u>Tom's Cove Campground (7)</u>
#5:	<u>Chamber of Commerce (6), Community Center (6)</u>

**Q3: What is your destination?\***

#1:	<u>Main Street (12)</u>
#2:	<u>Memorial Park (8)</u>
#3:	<u>Museum (8)</u>
#4:	<u>Island Creamery (8)</u>
#5:	<u>Maddox Blvd (7)</u>

**Q4: How did you find out about the trolley service?**

Asked someone:	<u>15.00%</u>	Brochure:	<u>37.00%</u>
Website:	<u>12.00%</u>	Other:	<u>42.00%</u>
Asked trolley driver:	<u>3.00%</u>		

**Q5: What is the purpose of your trip today?**

Social/Recreation:	<u>65.00%</u>	Work:	<u>2.00%</u>
Medical/Dental:	<u>2.00%</u>	Other:	<u>26.00%</u>
Shopping:	<u>24.00%</u>		

**Q6: How often do you ride the trolley?**

3 or more times a week:	<u>27.00%</u>	Once a month:	<u>8.00%</u>
1-2 times a week:	<u>11.00%</u>	Less than once a month:	<u>37.00%</u>
Less than once a week:	<u>17.00%</u>		

**Q7: Please indicate what times of the day you ride the trolley on a regular basis.**

5 pm - 6 pm:	<u>42.00%</u>	8 pm - 9 pm:	<u>37.00%</u>
6 pm - 7 pm:	<u>62.00%</u>	9 pm - 10 pm:	<u>31.00%</u>
7 pm - 8 pm:	<u>48.00%</u>		

**Q8: If the town of Chincoteague did not provide this trolley service, how would you make this trip?**

Drive myself:	<u>55.00%</u>	Ride with someone:	<u>13.00%</u>
Walk:	<u>42.00%</u>	Taxi:	<u>2.00%</u>
Bicycle:	<u>16.00%</u>	Other:	<u>6.00%</u>



**Table 3-3: Town of Chincoteague On-Board Rider Survey**

**Q9: Please rate your satisfaction with the trolley service in the following areas:**

	<b>Always</b>	<b>Usually</b>	<b>Sometimes</b>	<b>Almost Never</b>
Service is reliable:	<u>89.00%</u>	<u>10.00%</u>	<u>1.00%</u>	<u>0.00%</u>
Service is convenient:	<u>89.00%</u>	<u>11.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Trolleys are on time:	<u>76.00%</u>	<u>19.00%</u>	<u>5.00%</u>	<u>0.00%</u>
Schedules easy to understand:	<u>83.00%</u>	<u>10.00%</u>	<u>5.00%</u>	<u>2.00%</u>
Drivers are safe:	<u>95.00%</u>	<u>4.00%</u>	<u>1.00%</u>	<u>0.00%</u>
Drivers friendly and helpful:	<u>97.00%</u>	<u>3.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Trolleys are comfortable:	<u>94.00%</u>	<u>6.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Trolleys are clean:	<u>96.00%</u>	<u>4.00%</u>	<u>0.00%</u>	<u>0.00%</u>
The fare is affordable:	<u>98.00%</u>	<u>1.00%</u>	<u>0.00%</u>	<u>0.01%</u>

**Q10: Are you a:**

Full-time resident of Chincoteague:	<u>20.18%</u>
Tourist:	<u>57.80%</u>
Summer resident of Chincoteague:	<u>17.43%</u>
Other:	<u>4.59%</u>

**Q11: Is a car available to you here?**

Yes:	<u>88.00%</u>	No:	<u>12.00%</u>
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**Q12: Please indicate your age group.**

Under 12:	<u>7.00%</u>	26-55:	<u>47.00%</u>
12-17:	<u>19.00%</u>	56-64:	<u>15.00%</u>
18-25:	<u>4.00%</u>	65 or older:	<u>8.00%</u>

**Notes:**

1. Percentages were taken out of total number of responses for that question, not total surveys (where all questions were not answered).
2. There were 110 respondents.

- The most common destination was Main Street, followed by Memorial Park, the Chincoteague Museum, and Island Creamery.
- Social/recreation was the most common trip purpose (65.0%), followed by other (26.0%), and shopping (24.0%).
- 62% of respondents indicated that they usually ride the trolley between 6:00 p.m. and 7:00 p.m., while between 31% and 48% of respondents indicated that they usually ride during the other time slots. This data is shown in Table 3-4.

Table 3-4: Usual Hours of Ridership		
Answer Options	Response Frequency	Response Count
5 pm - 6 pm	42%	38
6 pm - 7 pm	62%	56
7 pm - 8 pm	48%	44
8 pm - 9 pm	37%	34
9 pm - 10 pm	31%	28
<i>answered question</i>		<b>91</b>
<i>skipped question</i>		<b>19</b>

- If they hadn't taken the bus, a significant majority of respondents would have driven themselves (55%) or walked (42%) to their destination. This data is shown in Table 3-5.

Table 3-5: How Respondents Would Make Trip if Trolley Weren't Available		
Answer Options	Response Frequency	Response Count
Drive myself	55%	57
Walk	42%	44
Bicycle	16%	17
Ride with someone	13%	14
Taxi	2%	2
Other	6%	6
<i>answered question</i>		<b>6</b>
<i>skipped question</i>		<b>104</b>

- A majority of respondents ride the trolley less than once a month (37%) or ride the trolley three or more times a week (27%).

### *Rider Satisfaction*

While the first part of the survey established a sense of general travel patterns for the riders, the second part gave an idea of Chincoteague Trolley riders' level of satisfaction with the trolley service.

- The respondents' satisfaction with service is high: when asked how often the service is reliable and how often the service is convenient, 89% of respondents said 'always' for both.
- 76% of respondents' said that the trolleys are 'always' on time, 19% said they are 'usually' on time, and 5% said they are 'sometimes' on time.
- When asked how often drivers are safe and how often drivers are friendly and helpful, 95% and 97%, respectively, answered 'always'.
- The respondents' satisfaction with the trolleys' appearance and ride is high: 94% of respondents stated that the trolleys are 'always' comfortable and 96% stated that the trolleys are 'always' clean.

### *Rider Characteristics*

The final section of the survey helped determine the demographic makeup of Chincoteague Trolley riders:

- Respondents indicated that the most prevalent age groups within surveyed households were:
  - 26-55 (47%)
  - 12-17 (19%)
  - 56-64 (15%)
- A significant majority (88%) of respondents' had a car available to them.
- 57.8% of respondents were tourists, 20.18% were full-time residents of Chincoteague, and 17.43% were summer residents of Chincoteague. This data is shown in Table 3-6.

Table 3-6: Respondent's Relationship to Chincoteague

Answer Options	Response Frequency	Response Count
Full-time resident of Chincoteague	20.18%	22
Tourist	57.80%	62
Summer resident of Chincoteague	17.43%	20
Other	4.59%	5
<i>answered question</i>		<b>109</b>
<i>skipped question</i>		<b>1</b>

### *Service Improvements Proposed by Surveyed Riders*

There were 15 comments provided via the comment section of the survey. Most of the comments stated that respondents really appreciate the trolley service. There were a few comments that suggested extending the trolley's hours and offering year round service which could be run on more limited days and hours and could cost more. Additionally, one respondent commented that a posted map of the stops would be helpful for riders.

The rider survey revealed that the trolley service is a vital and well-liked service in the Town of Chincoteague. According to the survey, many riders would drive to their destination if the trolley service weren't available, which would likely increase traffic during an already busy time period from 5:00 p.m. to 10:00 p.m. when many people are going into town for social trips or to have dinner. Rider satisfaction with the trolley service is extremely high. The only issue that some riders expressed is with the trolleys remaining on schedule, which almost a quarter of respondents said occurs only 'sometimes' or 'usually.' This could be attributed to the fact that beach traffic can cause the trolleys to run behind schedule, as people leaving the beach exit via Maddox Boulevard, a street on which the trolley must travel. Additionally, the new draw bridge can cause a delay of up to 15 minutes.

### **Stakeholder Interviews**

As part of the service and system evaluation, a series of interviews were conducted to gain information from key stakeholders on public transportation needs in Chincoteague and the region. The list of stakeholders contacted included:

- Town of Chincoteague
  - Manger's Office
  - Director of Planning
  - Hotel Owner

- Disabled Rider
- Former Trolley Operator
- STAR Transit
- Accomack-Northampton Planning District Commission (A-NPDC)
- Eastern Shore Community Services Board

A variety of organizations and agencies provide services in the Town of Chincoteague and surrounding area to support the general population. The majority of these stakeholders have a working relationship with the Town of Chincoteague, though the level of coordination and interaction vary. The following information presents the outcomes of this component of the needs assessment and these outreach efforts. These individuals and organizations provided the following valuable insight and input concerning transportation needs in the Town of Chincoteague and surrounding region.

- Progress to expanded hours of service – start earlier and run later (3:00 p.m. until 11:00 p.m.)
- Extend the trolley service season – weekday service during the first few weeks in September
- Improved marketing for the system – riders guide and map identifying key locations by name
- Promote and market service for disabled riders
- Restore a route to the mainland – Walmart and medical facilities
- Trolley system has matured and now has achieved a certain equilibrium of service and ridership

### **Expenses/Revenue/Patronage**

In FY 2010, the Town of Chincoteague's Pony Express operating expenses were \$71,023, which was about \$3,700 less than the previous two fiscal years. For FY 2012, the Town of Chincoteague's budget for the Pony Express is a little higher totaling \$74,500. The FY 2011 budget is detailed in Table 3-7.

Similarly, operating revenue and patronage have stayed level. This is due to the system maturing – the system has now been operating for seven years.

**Table 3-7: Town of Chincoteague  
Pony Express Operating Budget**

	FY 2011
Salaries and Wages	\$31,000
Fringe Benefits	\$2,400
Cleaning Supplies	\$250
Motor Fuels & Lubricants	\$8,400
Tires & Tubes	\$500
Parts	\$750
Travel	\$350
Printing and Reproduction	\$3,500
Contracted Repair & Maintenance	\$9,000
Advertising & Promotion Media	\$900
Drug Testing Supplies	\$1,225
Rental of Real Property	\$12,000
Insurance & Bonding	\$3,200
Education & Training	\$625
Supplies & Materials (Other)	\$550
Communication Services	\$750
<b>Total Operating Expenses</b>	<b>\$75,400</b>

### **Title VI and Federal Transit Administration (FTA) Triennial Review**

While the Town of Chincoteague is required to follow all applicable FTA guidance with regard to regulatory compliance, as a subrecipient of federal funds through the Virginia Department of Rail and Public Transportation (DRPT), the Town is not required to directly report compliance activities to the FTA. DRPT is charged with ensuring that its subrecipients are in compliance with federal guidance and prepares statewide reports on behalf of its rural transit providers and submits these reports to the FTA.

### **TRANSIT NEEDS ANALYSIS**

The focus of this transit needs assessment is to analyze quantitative land use and population data, along with qualitative data provided by area stakeholders and the public, to develop a solid understanding of the travel needs of the diverse group of

current and potential riders. This needs assessment incorporates information gathered from recent planning efforts, the U.S. Census and interviews with local stakeholders.

## Review of Recent Plans

This section of the needs analysis includes an overview of existing planning documents and studies that have been recently completed for the Town of Chincoteague and/or regional bodies. The plans and studies included those specific to public transportation, as well as those addressing more expansive land use and growth visions for the region. How these plans and studies address the issue of public transportation in the Town of Chincoteague and the surrounding area are abstracted in this section.

### *Accomack-Northampton Coordinated Human Service Mobility Plan*

In response to the coordinated planning requirements of the SAFETEA-LU legislation, DRPT sponsored the development of a Coordinated Human Service Mobility Plan. The coordinated plan was designed to guide funding decisions for three specific grant programs: Section 5316 (Job Access and Reverse Commute - JARC), Section 5317 (New Freedom), and Section 5310 (Elderly Individuals and Individuals with Disabilities.) A plan was developed for each of the Planning District Commission regions of the Commonwealth. The Town of Chincoteague is part of the Accomack-Northampton Region (Planning District Commission 22), which includes Accomack and Northampton Counties.

An important part of the coordinated planning process was to conduct an assessment of the transportation needs of individuals with disabilities, older adults, and people with low incomes. The vast majority of needs identified by workshop participants were described as “cross-cutting” – a need of all three population groups. The following unmet transit needs were identified in the Coordinated Plan:<sup>1</sup>

#### *Trip Purpose*

- Medical trips (cancer treatment, dialysis) for older adults. Many patients go into Maryland or other areas of Virginia due to the poor quality of care in the region.
- For lower income youth, trips to the Children's Hospital of the King's Daughters in Norfolk and to other medical and dental centers.
- Social activity trips for older adults, as well as youth after school activities such as group trips and educational trips.

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<sup>1</sup>Accomack-Northampton Coordinated Human Service Mobility Plan, June 2008, prepared by Cambridge Systematics and KFH Group for the Virginia Department of Rail and Public Transportation.

- Shopping trips for all groups.
- Work trips for people with lower incomes and people with disabilities (to jobs with non-standard hours, such as the poultry plants).

### *Time*

- Around the clock transportation to the poultry plants, which are a major employment source for migrant workers in the region.
- Need for weekend transportation for all groups (e.g. to accommodate events for older adults, or local Saturday meetings for attendees at the Local Federation for the Blind).
- After-hours transportation, including after school activities for lower income youth.

### *Information/Outreach*

- Mobility manager who contracts service, designs routes, and "gets service going" where it is needed.
- Need for a central clearinghouse for transportation information.
- Rural systems lack resources to conduct market research about their customer base and needs.
- Outreach to churches to provide services has been a slow process; there has been some, but not enough input from churches to fill in gaps.
- There has been poor public participation in meetings with the main public transit provider - STAR Transit.

### *Travel Training/Orientation*

- Customers are not necessarily aware of the transportation alternatives that are available to them; some degree of training is needed to use the resources; otherwise they will give up easily and will not likely make a second attempt.

### *Other*

- Hurdles toward volunteer driver programs still exist, including: administrative costs, fuel costs, liability, availability of volunteers, and accessibility for individuals with disabilities.
- Local match is a problem; localities will not spend additional money or raise funds unless there is a public outcry.
- There is not enough input on service from consumers to affect positive change in service availability.



- Coordination is difficult due to the focus on current operations; lack of resources exacerbates this issue.
- Lack of taxi service in the area is seen as a barrier.

### *Town of Chincoteague Comprehensive Plan 2010*

In 2010, the Town conducted an update, titled *Town of Chincoteague Comprehensive Plan 2010*, to its 2002 Comprehensive Plan. The Plan outlined a long-term vision for the Town's future, defined long-term goals and objectives concerning land use, economic development, community facilities and services, transportation, and housing, with its primary goal being to change over time in a manner that is both economically and environmentally sustainable and that allows the Town to retain its most endearing and unique physical and cultural features.

The Plan's transportation objectives included:

- Improving vehicular circulation by upgrading streets where possible, requiring connectivity between adjacent properties and requiring new development to make improvements to the existing street system.
- Continuing to provide and enhance local transit service.
- Improving safety and convenience for pedestrian and bicyclists by planning and developing a community-wide system of bike routes and pedestrian trails.
- Facilitating transit service through future corridor planning efforts

An analysis of the Town of Chincoteague's current transportation identified the following issues and further objectives:

- Parking in the downtown area is limited. As such, the plan recommended that the Town investigate the possibility of having a parking garage downtown.
- There are virtually no sidewalks in the annexed area, thus the application of the Town's sidewalk policy, by which the town installs sidewalks upon citizen request and upon their agreement to bear half of the construction cost, should benefit this area in particular.

- Due to Chincoteague's small lot sizes, the Town's population density is high and will likely increase, further necessitating good sidewalks throughout the town that promote safety, access, and circulation.

### ***2035 Regional Long Range Transportation Plan***

The A-NPDC 2035 Regional Long Range Transportation Plan was developed by the Transportation and Mobility Planning Division of the Virginia Department Transportation (VDOT). The Plan evaluated the transportation network within the study area, which included Accomack County, Northampton County, and the Town of Chincoteague, and recommended improvements to meet existing and future transportation infrastructure needs.

The Plan addressed the anticipated impacts of population and employment growth on the area's transportation system. It provided information on demographic and land use trends and regional transportation systems in Accomack and Northampton Counties, but due to its large coverage area and long range nature, the plan is general in scope. One significant point that the plan touched on is the importance of tourism's continued growth for the region's economy, indicating that the presence of adequate and sensitive access to destinations within the region, such as the Town of Chincoteague and the Assateague Island National Seashore, is important for these destinations to continue to draw tourists.

### ***STAR Transit's Transit Development Plan***

STAR Transit, the public transportation program for the Accomack-Northampton Transportation District Commission, conducted a TDP, which was adopted in November 2009. This plan examined STAR Transit's current deviated fixed-route and demand-response route services and outlined future goals and objectives for the transit system. STAR Transit offered four deviated fixed-route as well as one demand-response route when the plan was developed. The fixed-route services served the entire Eastern Shore, while the demand-response service covered only the southern half of Accomack County.

STAR Transit's Blue Line was a deviated fixed route service that operated round trip service from Onley to the Town of Chincoteague along the US Route 13, Virginia Route 176/316/187, and Virginia Route 175 corridors.<sup>2</sup> The line ran three times northbound and three times southbound daily, Monday through Friday. This service, however, has since been terminated due to insufficient ridership.

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<sup>2</sup> PBS&J. STAR Transit - Transit Development Plan: Fiscal Years 2010-2015, November 2009.

The plan identified potential service expansion scenarios that would be implemented in the mid-term to longer-range future of the TDP time period:

- Resumption of the Ruby Route, a previously operated demand-response route that was terminated in 2008 as a cost-saving measure
- Expansion of regular STAR transit service to Saturdays

### ***Eastern Shore Alternative Transportation Mode Study***

The Eastern Shore Alternative Transportation Mode Study for Disabled, Elderly, Low-Income, and Youth Population Plan was completed by the Accomack-Northampton Planning District Commission, in cooperation with VDOT, in December 2006. This study focused on the transportation needs of low-income, disabled, elderly, and youth populations in Northampton and Accomack County. Although the plan makes recommendations on land use and bicycle and pedestrian facilities, its focus is on changes that STAR Transit can implement to better serve these potentially transit dependent populations.

The Study included a couple of recommendations that pertain to the Town of Chincoteague:

- Advertise bus service on Chincoteague Island - the public workshop identified this need, and since then local officials have put some of this information on the public access channel for the island.
- Add additional demand response coverage, which would complete transit coverage of the Eastern Shore, as these routes could feed fixed-route services by using major transit destinations for passengers whenever possible.

### ***Chincoteague National Wildlife Refuge Alternative Transportation Study***

In 2009, Volpe National Transportation Systems Center prepared an Alternative Transportation Study for the Chincoteague National Wildlife Refuge (CNWR), the U.S. National Park Service (NPS), the Town of Chincoteague, Accomack County, and the ANPDC. The study focused on the Town's current transportation conditions, particularly as related to Assateague Island's beach, which encounters seasonal traffic congestion and other transportation concerns due to a combination of its popularity and its limited access and parking.

Ultimately, the study identified Assateague Island's beach parking as an area of concern. The study stated that there are currently four unpaved parking lots on

Assateague Island, which are occasionally closed due to reaching capacity or storm events. Furthermore, the lots require routine maintenance twice a week from April through November and once a week from December through March. The study suggested that the annual cost for cleaning the parking lots (\$7,200) and their average annual storm damage reparation cost (\$150,000) could be significantly reduced if they were relocated to areas on the island that are less prone to damage from coastal storms.

Additionally, concerns about Assateague Island's current parking situation were compounded in related studies, all of which predict that that critical transportation infrastructure, including the land on which Assateague Island's current parking lots are located, will eventually be reduced due to coastal changes and sea-level rise. The Plan's recommendation for future parking is to provide parking management and a shuttle service for beach visitors.

### *Town of Chincoteague's Questionnaire on the use of Assateague Beach*

To respond to CNWR's Alternative Transportation Study, which suggested the relocation of Assateague Island's beach parking and the bussing of visitors to the beach, the Town of Chincoteague distributed a questionnaire relating to the visitor's usage of Assateague Beach. The Town of Chincoteague distributed the questionnaire to visitors between July 4th and November 10th of 2010. Through this effort, the Town collected 2,854 completed questionnaires. The results of this survey are summarized in the subsequent bulleted points:

- 82% of respondents stated their primary reason for coming to Chincoteague is to go to Assateague Beach.
- When asked if they thought that public beach access and automobile parking on Assateague Beach should be restored after major storm damage, an overwhelming majority (96.9%) responded 'yes'.
- 82% of respondents stated that they would not return to visit Assateague Beach if direct beach parking was not available and a trolley/bus from a remote parking lot in Chincoteague was available instead.
- 86.6% of respondents indicated that if a fast-moving thunderstorm hit the beach, they would not feel safe in a temporary shelter while waiting for a trolley or bus.
- An overwhelming majority (91.1%) of respondents stated that they believed that direct beach parking at Assateague Beach is very important.

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### *Town of Chincoteague Bicycle Plan*

Bicycle and pedestrian facilities are essential to the transportation network in the Town of Chincoteague, particularly because of the type of recreational opportunities available in the Town and on Assateague Island. *The Town of Chincoteague Bicycle Plan* establishes that the bike facilities in Chincoteague should be designed to meet the needs of not only advanced bicyclists, who feel comfortable operating under most traffic conditions, but also of basic bicyclists, classified as less-confident casual cyclists and children.<sup>3</sup>

The plan details existing conditions of bike facilities in the Town of Chincoteague and outlines goals and objectives to help guide the development of bicycle facilities and programs in Chincoteague. The goals include improving bicycling access, enhancing bicycle safety, encouraging bicycle facility development, and improving and diversifying the tourism economy by enhancing the awareness of bicycle accessibility to major destinations on the island. The plan concludes with proposals for the construction of bicycle facilities and an implementation plan to guide future bicycle facility development in Chincoteague.

### *Eastern Shore of Virginia Bicycle Plan*

In 2011, the Accomack-Northampton Planning District Commission developed the *Eastern Shore of Virginia Bicycle Plan* in conjunction with the U.S. DOT, FHA, and VDOT. The Plan's goals included improving bicycling access on the Eastern Shore of Virginia, enhancing bicycling safety, encouraging bicycle facility development and improving and diversifying the Eastern Shore's tourism economy. The Plan identifies existing bicycle facilities as well as several roadways in both Accomack and Northampton Counties which have pavement widths or shoulders that can accommodate bicycles. Route 175 (Chincoteague Road), from Route 14 to Chincoteague Island, was identified as one such roadway.<sup>4</sup> It should be noted that although Chincoteague Road is planned to accommodate bicycles, significant safety and shoulder improvements are necessary in order for these roadways to fully accommodate bicycles.

## DEMOGRAPHIC ANALYSIS

The following section provides an extensive overview of the demographic composition of the residents of the Town of Chincoteague. The demographic analysis of transit needs conducted by the study team focused on quantitative data associated

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<sup>3</sup> Town of Chincoteague Bicycle Plan, Chincoteague Public Works Committee, October 1997.

<sup>4</sup> Accomack-Northampton Planning District Commission, Eastern Shore of Virginia Bicycle Plan, April 2011.

with potentially transit dependent populations, such as older adults, individuals with disabilities, and persons living below the poverty level. U.S. Census American Community Survey (ACS) data on these populations were collected, processed, and mapped using Geographic Information Systems (GIS) technology to help identify areas with relatively high potential transit needs. Major origins of and destinations for potential transit riders were also researched and mapped, in order to augment the study team's understanding of areas with higher transit needs.

Specifically, this section of the transit needs analysis examines trends in the general population, relative concentrations of residents, two separate indices investigating potential transit dependence characteristics within the populace, and an extraction of a few of the more important characteristics associated with this greater potential need for public transportation services.

### General Population

Table 3-8 shows the general population characteristics of Chincoteague Island, Accomack County, and the State of Virginia. In Chincoteague, there was tremendous population growth between the 1990 Census and the 2000 Census, with an increase in population of 20.86% from 3,572 in 1990 to 4,317 in 2000. In contrast, between the 2000 Census and the 2010 Census there was a decrease in population of 31.87% from 4,317 in 2000 to 2,941 in 2010.

**Table 3-8: General Population Characteristics for Town of Chincoteague**

	1990	2000	2010	2000-2009	2000-2010
Place	Population	Population	Population	Percent Change	Percent Change
State of Virginia	6,187,358	7,078,515	8,001,024	14.40%	13.03%
Accomack County	31,703	38,305	33,164	20.82%	-13.42%
Chincoteague	3,572	4,317	2,941	20.86%	-31.87%

Source: United States Census Bureau, American FactFinder.

The Town of Chincoteague and Accomack County have both challenged the 2010 Census count. The Town of Chincoteague has estimated through an alternate counting method that its population is 3,666. This population count has been approved by the United States Justice Department for the purpose of redistricting. Using the population number estimated by the Town of Chincoteague, the population decrease is 15.08%. Though there are often multiple factors contributing to the population change, the primary one appears to be the result of young residents fleeing for lack of jobs, many moving to nearby Hampton Roads, central Virginia or the fastest-growing region of the state, Northern Virginia.

A forecast of Accomack County and the State of Virginia's population indicates that both the county and the state are expected to experience an increase in population, with Accomack County's forecasted population growing from 33,163 in 2010 to 42,185 in 2020 and 44,249 in 2030, as seen in Table 3-9. The tremendous population increase forecasted between 2010 and 2020 and only slight increase between 2020 and 2030 supports the Town of Chincoteague's and Accomack County's claims that the Census data collected in 2010 grossly underestimates their populations.

**Table 3-9: Population Projects for Accomack County and the State of Virginia**

Place	2010 Population	2020 Forecasts	2020 Forecast
State of Virginia	8,001,024	8,917,396	9,825,019
Accomack County	33,164	42,185	44,249

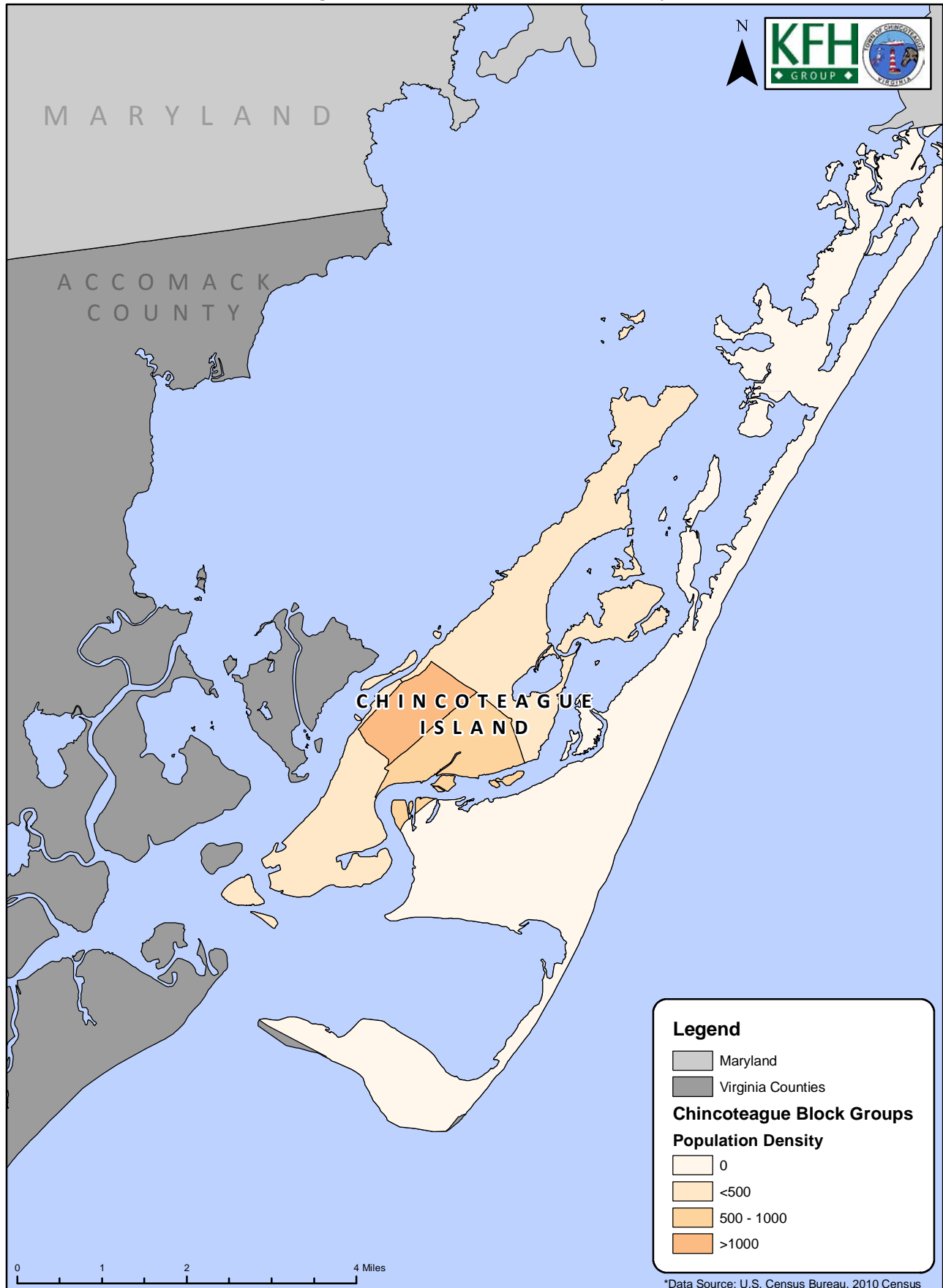
Source: United States Census Bureau, American FactFinder, Virginia Employment Commission LMI Demographic Tool.

## Population Density

Population density often serves as an effective indicator of the types of public transit services that are most feasible within a study area. For instance, while there may always be exceptions, an area with a population density of over 2,000 persons per square mile should generally be able to support regular, fixed-route transit services while an area with a population density below this stated threshold but above 1,000 persons per square mile may be better suited for a demand-response or deviated fixed-route bus service. As part of the transit needs assessment for the Town of Chincoteague the block group geography determined by the United States Census Bureau was employed as a boundary for analysis. Each block group in the Town of Chincoteague was then classified as one of five categories, two of which include the aforementioned divisions, which are displayed in Figure 3-14.

Of the five block groups in the Town of Chincoteague, only the block group bordered by Main Street on the northwest and Maddox Boulevard on the northeast has a population of over 1,000 persons per square mile. Of the four remaining block groups, the block group bordered by Ridge Road on the northwest and Maddox Boulevard on the northeast has over 500 persons per square mile while the three remaining block groups have fewer than 500 persons per square mile. The block group that has zero persons per square mile is covered by National Park and as such contains no residents. Although the population density of Chincoteague is generally low, there

Figure 3-14: Population Density





are numerous summer residents and vacationers who weren't included in the Census data and who add additional density to the town every March through September.

## **Overview of Transit Dependent Populations**

Public transportation needs are defined in part by identifying the relative size and location of those segments within the general population that are most likely to be dependent upon some arrangement of public transit services. Once the location of these transit dependent populations is determined and analyzed, it becomes possible to evaluate the extent to which current services meet the needs of community residents.

To identify the areas of highest transportation need, the study team used measures that display the relative amount of vulnerability and relative degree of vulnerability of block groups within the study area based on the presence of population segments more likely to be dependent upon public transit services. Additionally, the study team examined these segments individually, to gain a further understanding of high-need areas within the Town of Chincoteague.

For these analyses, socioeconomic data was collected from the 2010 Census and the 2005-2009 American Community Survey five-year estimates for each block group within the study area and used to calculate the study area average. Using this study area average, each block group was classified as having a very low, low, moderate, high, or very high need for transportation services. For each index, this classification was based on the individual block group's score relative to the study area average, for example, if the block group's score was twice as high as the study area average the block group was given a classification of very high. A complete explanation of the methodology used to assign block groups classification is provided in Appendix B.

The study team looked at these analyses in relation to the study area, rather than state or national averages so that each block group's classification is relevant for our study. Because every city, county, or state has a different density and different demographic data, conducting the analyses relative to the study area average is more beneficial than looking at the county, state, or even national average and will ensure that the classifications give the study team insight as to where transit need exists in the Town of Chincoteague.

### ***Transit Dependence Index***

The Transit Dependence Index is an aggregate measure that utilizes recent data from the American Community Survey (ACS) five-year estimates and the United States Decennial Census to effectively display relative concentrations of transit dependent populations within a study area. Similar to the aforementioned general population measures, the TDI is determined at the block group level for the Town of Chincoteague

service area. The following section describes the formula used to compute the TDI for each of these block groups, as well as a brief description of the six factors used in its calculation:

- People residing in households with no vehicle available,
- Elderly Adults,
- Youth,
- People with disabilities, and
- People residing in households with incomes below the poverty level.

The TDI also includes a population density factor. A complete explanation of the methodology used to develop the TDI is provided in Appendix B. The TDI shows relative need within a study area, which means that in a relatively homogenous service area, there will not be locations that show up as high need, as the index reflects the degree to which a certain area is below or above the study area average for the various needs characteristics.

A visual depiction of the overall TDI rankings for the Town of Chincoteague may be found in Figure 3-15. The block group bordered by Ridge Road on the northwest, Maddox Boulevard on the northeast, and by the edge of the island on the south has a TDI classification of very high. The three remaining block groups have a TDI classification of very low.

### ***Transit Dependence Index Percent (TDIP)***

The Transit Dependence Index Percent (TDIP) provides a complementary analysis to the TDI measure and its reliance upon the population density factor. The TDIP measure is nearly identical to the TDI measure in every aspect with the lone exception being its exclusion of population density as a factor. The TDIP measures the relative degree of vulnerability, or percent of individuals exemplifying a particular socioeconomic characteristic within a particular block group relative to other block groups in the study area. A complete explanation of the methodology used to develop the TDIP is provided in Appendix C. Figure 3-16 is a visual representation of the TDIP for the Town of Chincoteague. While three of the four block groups were classified as having a very low TDIP score relative to the study area, the block group bordered by Main Street on the northwest, Maddox Boulevard on the northeast and Ridge Road on the southeast was classified as having a moderate score.

### ***Autoless Households***

Households without access to at least one personal vehicle are more likely to depend on public transportation than those households with access to an automobile.

Figure 3-15: Relative Transit Dependence Index Classification

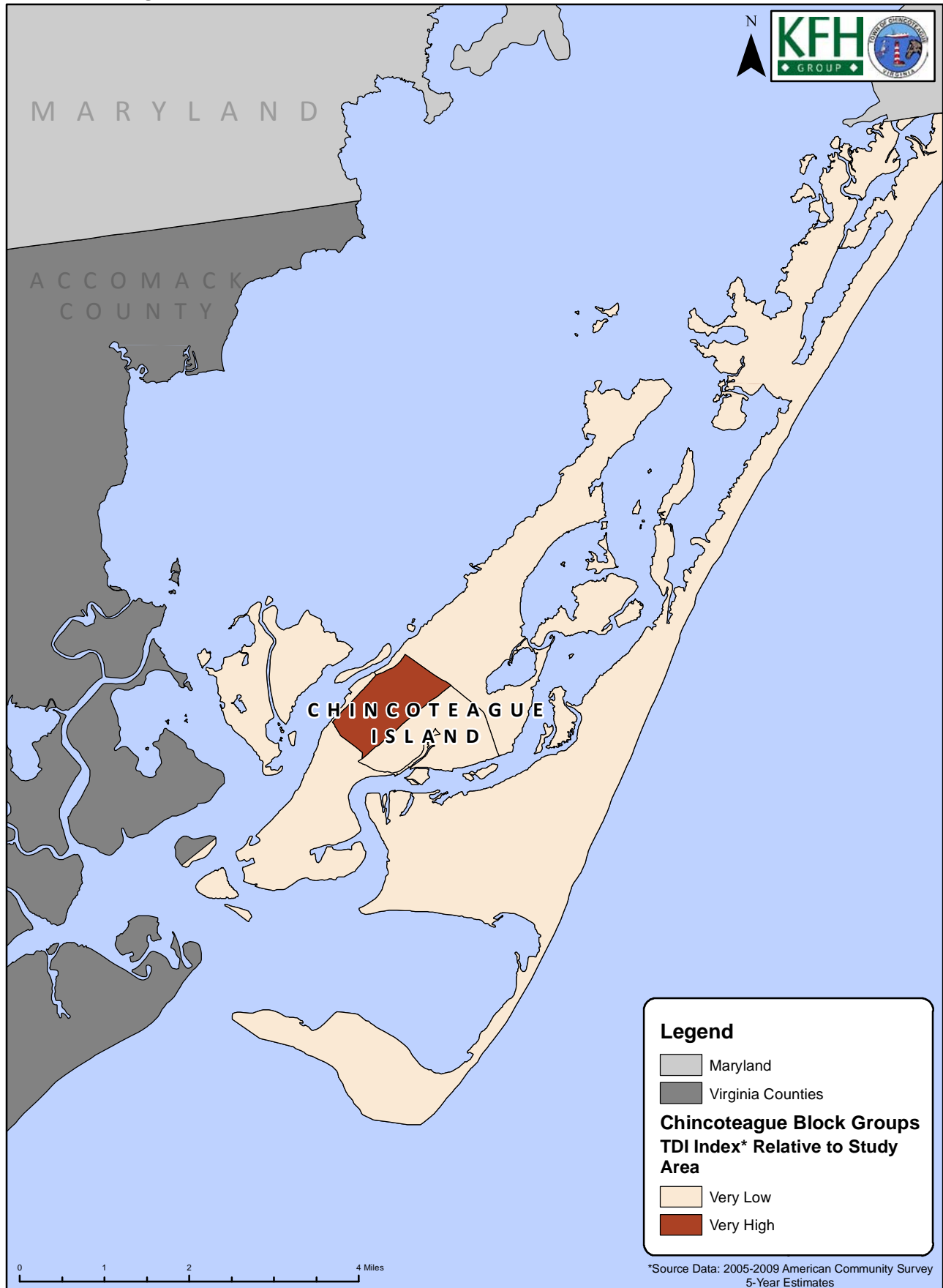


Figure 3-16: Relative Transit Dependence Index Percent Classification

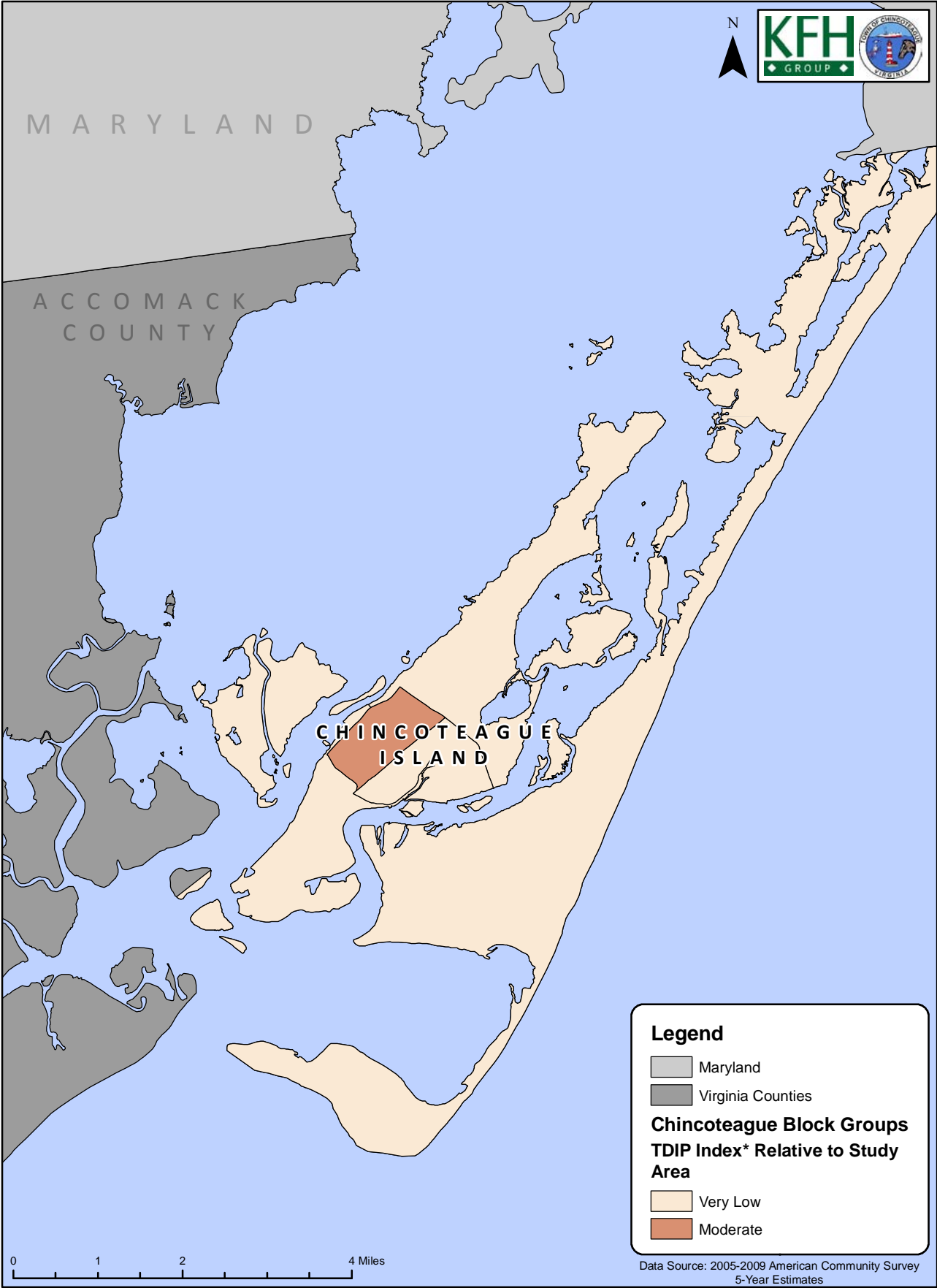


Figure 3-17 is a map of the relative autoless household classifications of each block group in the Town of Chincoteague. The block group bordered by Main Street, Maddox Boulevard, Ridge Road, and Bunting Road has the highest number of autoless households, containing over 40. The block group bordered by Ridge Road on the northwest and Maddox Boulevard on the northeast has a very low classification, containing 33 autoless households. The two remaining block groups have a relatively low number of autoless households, one with zero autoless households and the other containing 22 autoless households.

### ***Senior Population***

Age is considered a potential indicator of the need for transit services as seniors, categorized as persons aged 60 and above, may choose to no longer drive. As such, public transportation becomes an essential element in maintaining their quality of life. Figure 3-18 portrays Chincoteague's block groups by relative older adult population classification, as detailed earlier. Although none of the block groups are classified as very high or high in terms of their older adult population, they have a notably high population of older adults overall, particularly in the island's northern- and eastern-most block groups. The northern-most block group has the highest relative classification, moderate, as it contains over 400 older adults. The eastern-most block group has a low relative classification with just over 300 older adults. The remaining two block groups have very low relative classifications, both with between 150 and 250 older adults.

### ***Persons with Disabilities***

Figure 3-19 portrays Chincoteague's block groups by the relative classification of persons 16 and above with a go-outside-the-home disability, meaning a person has difficulties leaving the home alone for simple activities such as shopping and medical appointments. Persons with disabilities are considered a potential indicator of the need for transit services due to these individuals' need for accessible transportation for various trip purposes, from employment and medical treatment to shopping and social activities. The block group with the highest relative classification is the central block group bordered by Main Street, Maddox Boulevard, Ridge Road, and Bunting Road, which contains over 120 persons with disabilities. The remaining block groups have a very low relative classification with between 25 and 65 persons with disabilities per block group.

Figure 3-17: Relative Autoless Household Classification

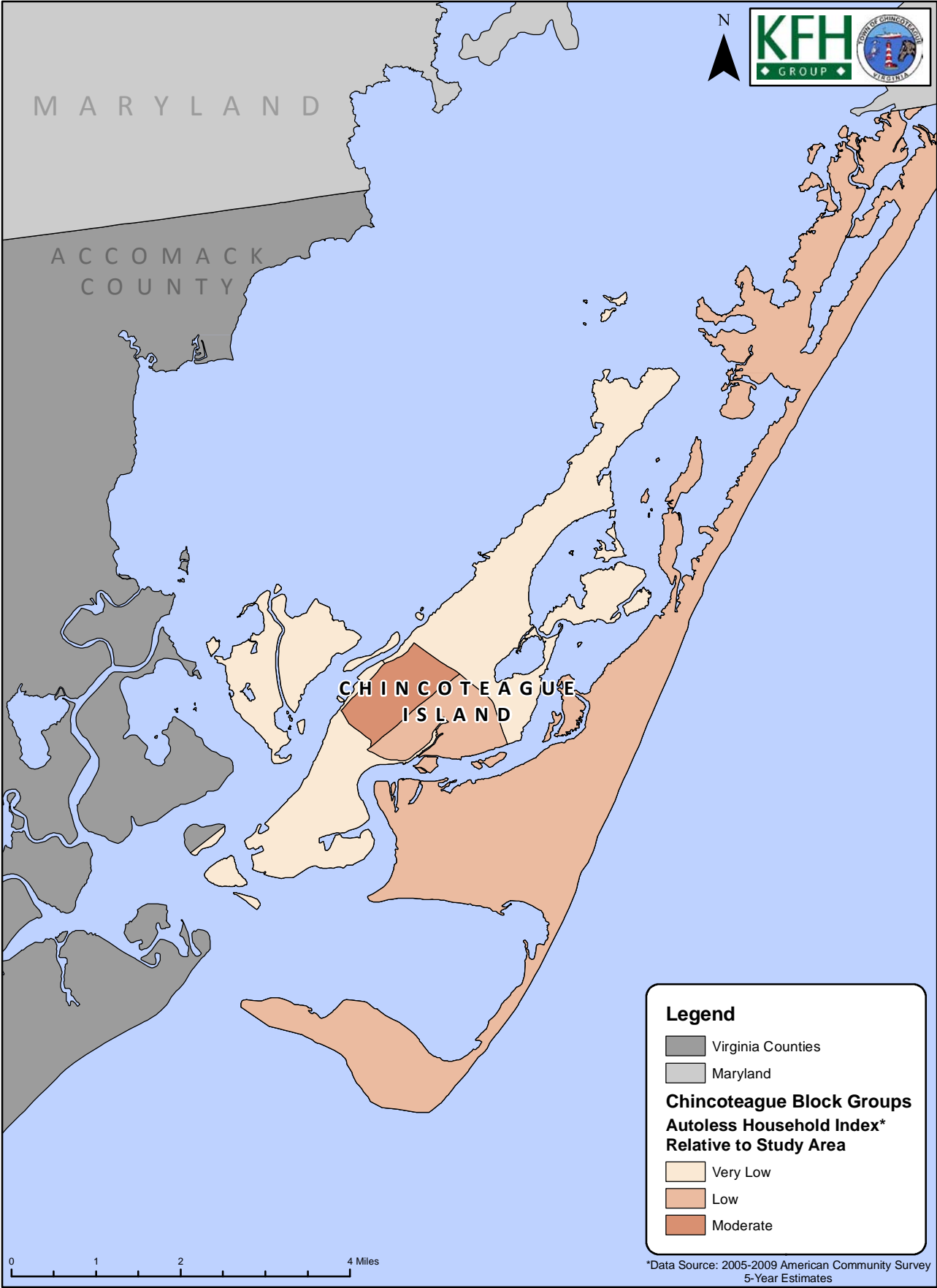


Figure 3-18: Relative Older Adults Classification

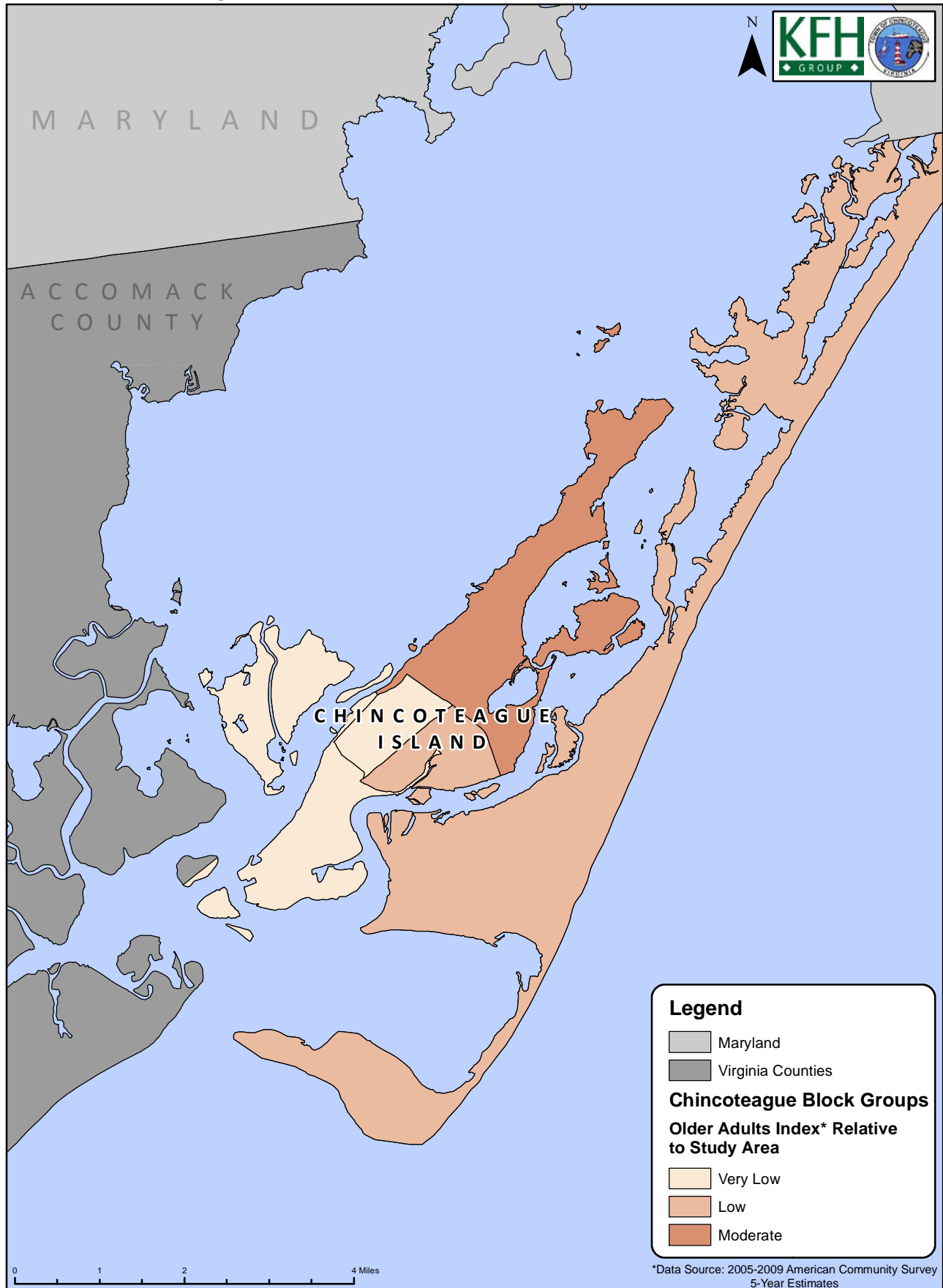


Figure 3-19: Relative Persons with Disabilities Classification





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## Title VI Analysis

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities that receive financial assistance from the federal government. Thus, in accordance with Title VI, agencies providing public transportation services that are either partially or fully federally-funded have a responsibility to sustain and enhance the social and economic quality of life for the residents of the communities they serve. The following section examines the environmental justice population of the Town of Chincoteague, which constitutes both racial and/or ethnic minorities and low-income residents and provides information about Chincoteague residents that possess limited proficiency in their English-speaking ability.

### Environmental Justice Index (EJI)

The EJI is an aggregate measure that may be employed with mapping software to effectively display relative concentrations of racial and/or ethnic minorities and low-income residents throughout the study area. The structure for the EJI was introduced in a 2004 National Cooperative Highway Research Program report in order to offer “practitioners an analytical framework to facilitate comprehensive assessments of a proposed transportation project’s impacts on affected populations and communities.”<sup>5</sup> The application of the EJI within this needs assessment will ensure a high standard of social and economic equality, as outlined in Title VI of the Civil Rights Act of 1964, when evaluating potential modifications to the present public transportation services in the region.

Similar to both the TDI and TDIP, the data utilized for the EJI was compiled by the ACS’s five-year estimates, which enabled examination of socioeconomic characteristics at a block group level of analysis, and the United States Decennial Census, which provided the necessary geographic information (e.g., block group boundaries). Factors included in the EJI are:

- Population per square mile,
- Minority population, and
- People residing in households with incomes below the federal poverty level.

The classification scheme employed by this index is the same as those used in the previous demographic analyses, with each block group classified as having very low to

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<sup>5</sup>Forkenbrock, D. and Sheeley, J. 2004. *Effective Methods for Environmental Justice Assessment*. NCHRP Report 532. Transportation Research Board, National Research Council. Washington, DC: National Academy Press.

very high relative transit need. A full discussion of the EJI methodology is provided in Appendix D.

A visual depiction of the overall EJI classification for the Chincoteague study area is presented in Figure 3-20. The northern-most block group of the study area has a classification of moderate, the highest of all of the block groups, while the block group bordered by Main Street, Maddox Boulevard, Ridge Road, and Bunting Road has a classification of low and the remaining two block groups have a classification of very low.

### ***Minority Population***

In accordance with Title VI of the Civil Rights Act of 1964, there is a necessity to ensure that areas within the Chincoteague service area with a relative concentration of racial and/or ethnic minorities are not negatively impacted by any proposed alterations to the existing public transportation services. To determine whether an alteration would have an adverse impact upon the minority population of the Chincoteague study area, it is necessary to know where these relative concentrations of individuals reside. Figure 3-21 provides a visual depiction of the relative minority population classification. The block group bordered by Ridge Road on the northwest and Maddox Boulevard on the northeast received a relative classification of moderate, the highest minority resident classification of the four block groups. The northern-most block group of the study area and the block group bordered by Main Street, Maddox Boulevard, Ridge Road, and Bunting Road were classified as having a low relative minority concentration while the final block group was classified as having a very low relative minority concentration.

### ***Low-Income Population***

The second socioeconomic group included in the EJI is individuals who earn less than the federal poverty level during an observed period of time. These individuals may not have the economic means to either purchase or maintain a personal vehicle and thus are more likely to be dependent upon public transportation for both mandatory and discretionary trips. As such, it is important to ensure that environmental justice persons, who exhibit any of the previously described vulnerable characteristics, are identified and protected from any injustice that may result from a potential service modification.

Figure 3-22 is a map showing the Town of Chincoteague's relative low-income individuals classification by block group. Again, three of the four block groups of the Chincoteague study area received a classification of very low. These block groups have a relatively low number of residents who earn less than the federal poverty level according to the American Census Survey (ACS) 5-year estimates; these block groups

Figure 3-20: Relative Environmental Justice Index Classification

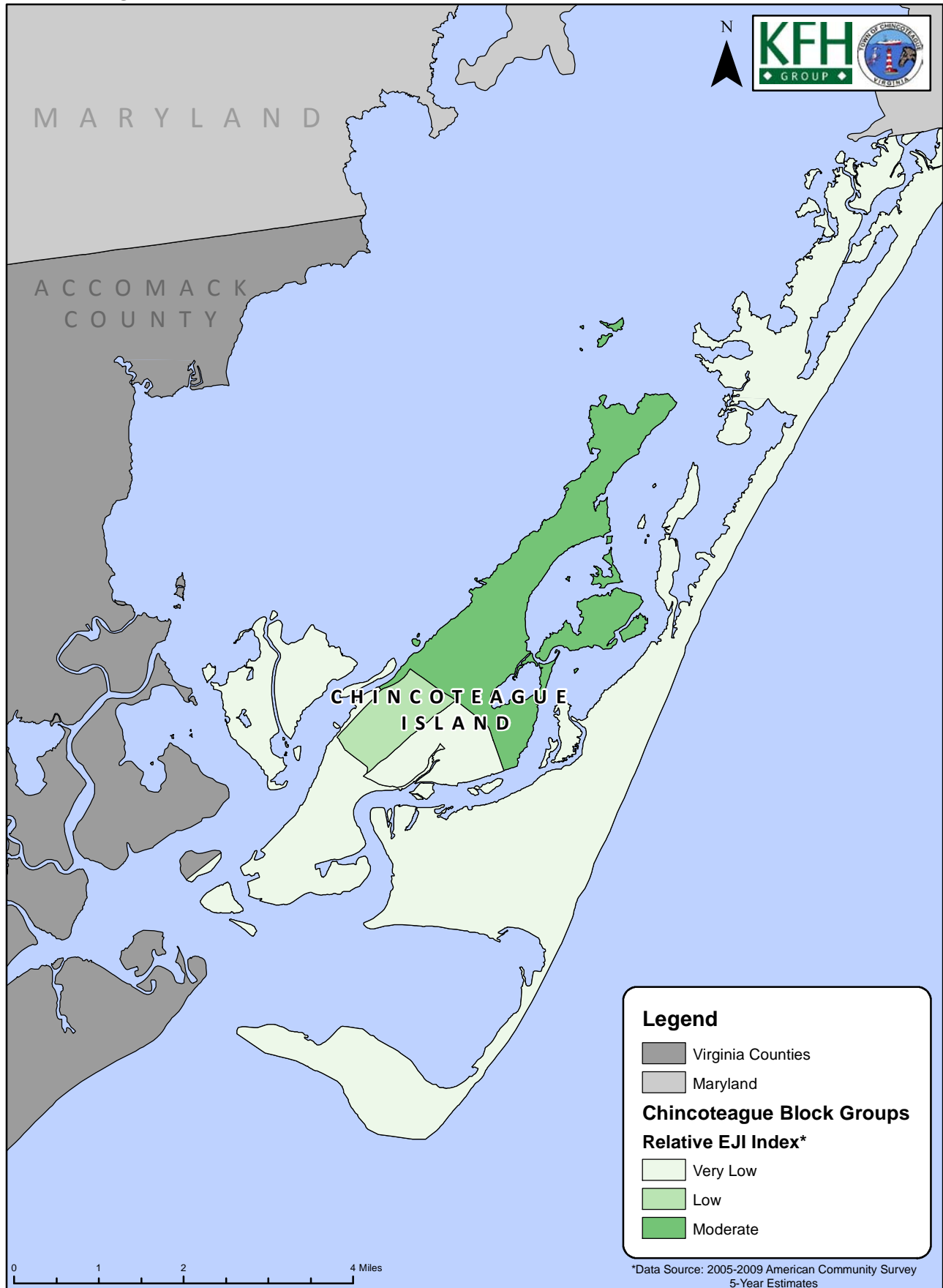


Figure 3-21: Relative Minority Population Classification, Census 2010

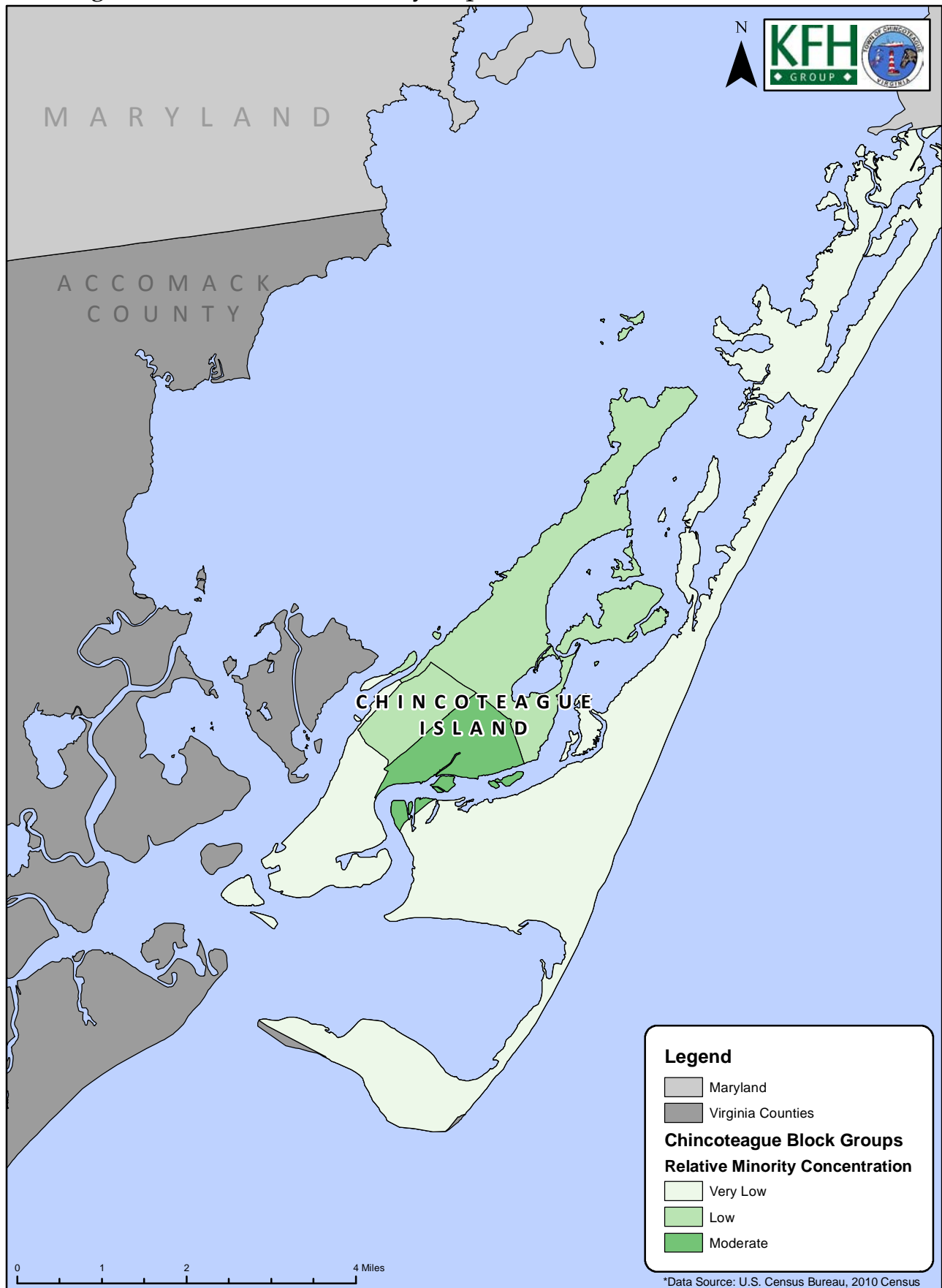
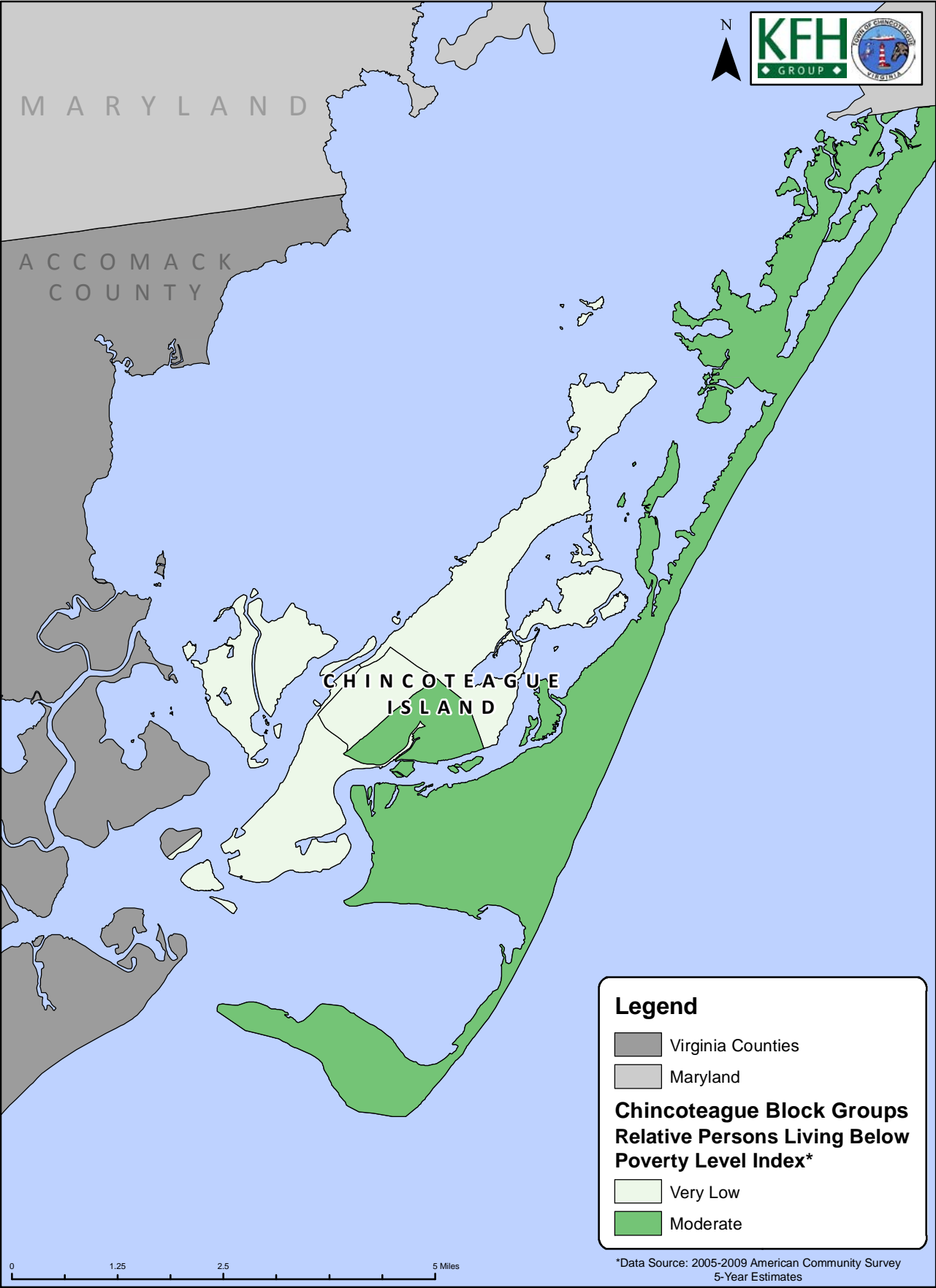


Figure 3-22: Relative Persons Living Below the Federal Poverty Level Classification



have with between 91 and 152 individuals who earn less than the federal poverty level. The remaining block group, the island's eastern-most block group, has a moderate score, with 260 individuals who earn less than the federal poverty level.

### *Limited-English Proficiency*

In addition to equitably providing transportation to individuals of diverse socioeconomic backgrounds, it is important to realize the variety of languages spoken by residents of the Chincoteague study area. The Town of Chincoteague must determine how and to what level to disseminate information to individuals and households with limited English-speaking proficiency in its service area. According to ACS's five-year estimates for 2005-2009, English is, unsurprisingly, the predominantly spoken language amongst the residents of the Town of Chincoteague (93.59%). Of the other languages spoken by Chincoteague residents, only Spanish or Spanish Creole has a percent-share greater than one percent (3.66%). Of those households where a non-English language is spoken, the split between those who are able to speak English "very well" and those with ability that is less than the threshold is about even. Among all of the residents in Chincoteague that speak a language other than English at home (6.41%), 52.12% are unable to speak English "very well." These numbers show that the overwhelming majority of residents in the study area are either native English speakers or at ease with speaking the language.

Examining the linguistic isolation in the Town of Chincoteague provides a similar finding, which is detailed in Table 3-10. Only 1.3% of the households in Chincoteague are considered linguistically isolated by the ACS's findings, all of which speak Spanish in the household.

## **MAJOR TRIP GENERATORS**

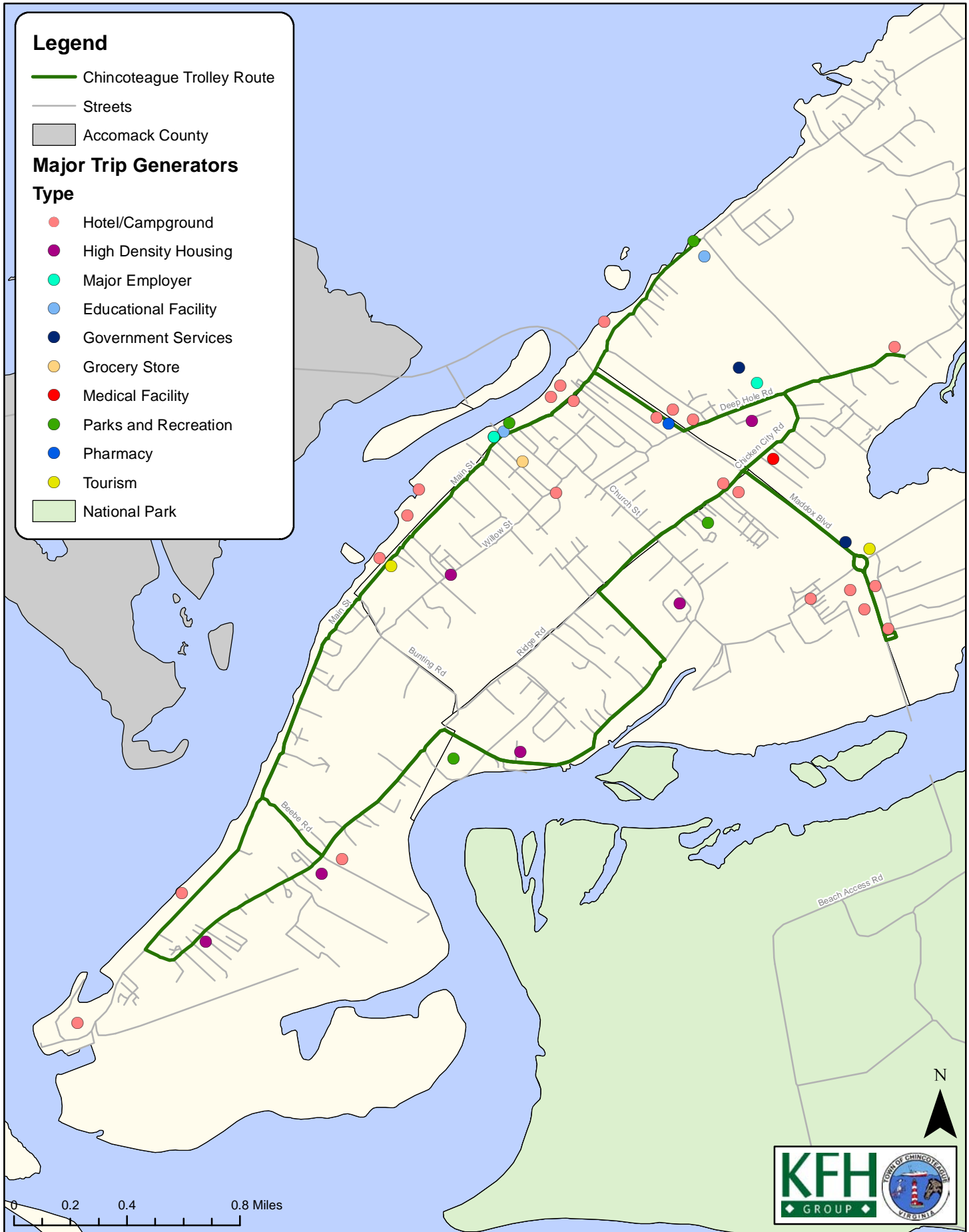
While the first section examined where populations who are likely to require transit services reside within the Town of Chincoteague, another important component of the transit service planning process is to identify and assess common destinations to which transit dependent populations need to travel. Major trip generators include major employers, governmental buildings, medical facilities, human service agencies, parks and shopping destinations. Areas of trip origins such as apartment complexes and mobile home parks are also considered major trip generators.

Data concerning the locations of major trip generators were collected and mapped in Figure 3-23. The trip generators are listed in Table 3-11. The purpose of this

**Table 3-10: Limited-English Proficiency and  
Linguistic Isolation in Chincoteague, VA**

<b>Town of Residence</b>	<b>Town of Chincoteague</b>	
<b>Population Five Years and Older:</b>	<b>4,041</b>	
Language Spoke at Home--	<b>Number</b>	<b>Percent</b>
English (only):	3,782	93.59%
Spanish or Spanish Creole:	148	3.66%
German:	31	0.77%
Polish:	30	0.74%
Serbo-Croatian:	28	0.69%
Other:	22	0.54%
Speak non-English at home:	259	6.41%
Ability to Speak English--		
"Very Well":	124	47.88%
Less than "Very Well":	135	52.12%
<b>Population in Household:</b>	<b>2,069</b>	
Language Spoken in Household--	<b>Number</b>	<b>Percent</b>
English (only):	1,937	93.62%
Spanish:	71	3.43%
Other Indo-European:	61	2.95%
Asian and Pacific:	0	0.00%
Other Languages:	0	0.00%
Linguistically Isolated:	27	1.30%
Language Spoken in Houshold--		
Spanish	27	1.30%
Other Indo-European:	0	0.00%
Asian and Pacific:	0	0.00%
Other Languages:	0	0.00%

Figure 3-23: Major Trip Generators





**Table 3-11: Trip Generators in the Town of Chincoteague, VA**

Type	Name	Address	City	1/2 Mile from Transit Service
Educational	Chincoteague Junior Senior High School	4586 Main Street	Chincoteague	Yes
Educational	Chincoteague Library	4077 Main Street	Chincoteague	Yes
Government Building	Chincoteague Municipal Complex	6155 Community Drive	Chincoteague	Yes
Government Building	Chincoteague Chamber of Commerce	6733 Maddox Boulevard	Chincoteague	Yes
Grocery	Fresh Pride Supermarkets	6277 Cleveland Street	Chincoteague	Yes
Housing	Mobile Home Park	Ridge Road and Beebe Road	Chincoteague	Yes
Housing	Mobile Home Park	Magnolia Drive	Chincoteague	Yes
Housing	Ocean Breeze Mobile Home Park	Seaweed Drive	Chincoteague	Yes
Housing	Grand Bay Court Townhomes	Grand Bay Court	Chincoteague	Yes
Housing	Mobile Home Park	Thomas Circle	Chincoteague	Yes
Human Service Agencies	Chincoteague YMCA	6395 Maddox Boulevard	Chincoteague	Yes
Human Service Agencies	Chincoteague Senior Service Center	6309 Church Street	Chincoteague	Yes
Human Service Agencies	Chincoteague Cultural Alliance	4065 Main Street	Chincoteague	Yes
Human Service Agencies	Chincoteague Volunteer Fire Company	4028 Main Street	Chincoteague	Yes
Human Service Agencies	Chincoteague Center	6155 Community Drive	Chincoteague	Yes
Major Employer	Eastern Shore Rural Health	4049 Main Street	Chincoteague	Yes
Major Employer	Town of Chincoteague	6155 Community Drive	Chincoteague	Yes
Medical Facility	Chincoteague Island Medical Center	4049 Main Street	Chincoteague	Yes
Medical Facility	Peninsula Regional Medical Center	6295 Teal Lane	Chincoteague	Yes
Parks and Recreation	Memorial Park and Recreation Area	Memorial Park Drive	Chincoteague	Yes
Parks and Recreation	Donald J. Leonard Park	North Main Street	Chincoteague	Yes
Parks and Recreation	Downtown Park	Mumford Street	Chincoteague	Yes
Parks and Recreation	Chincoteague Pony Centre	6500 Leonard Lane	Chincoteague	Yes
Pharmacy	H&H Pharmacy	6300 Maddox Boulevard	Chincoteague	Yes
Tourism	Museum of Chincoteague Island	7125 Maddox Boulevard	Chincoteague	Yes
Tourism	Chincoteague Fairgrounds	Main Street and Davis Street	Chincoteague	Yes

analysis was to develop a visual tool to examine the locations of important transit origins and destinations and to look at the extent to which they are currently served by the Chincoteague Trolley.

The map (Figure 3-23) shows that trips generators in the Town of Chincoteague are concentrated around Main Street and Maddox Boulevard with other trip generators relatively evenly dispersed around the rest of the island. Two parts of Chincoteague without trip generators are the northern part of the island and the Chincoteague National Wildlife Refuge/Assateague Island. The refuge covers a large portion of the island, and while it offers a large recreational area and provides beach access, it doesn't contain any major trip generators other than its recreational area. Other than the Chincoteague National Wildlife Refuge/Assateague Island, one hotel, and one campground, all of the identified trip generators are within a quarter mile of either the Green or Red Trolley route.

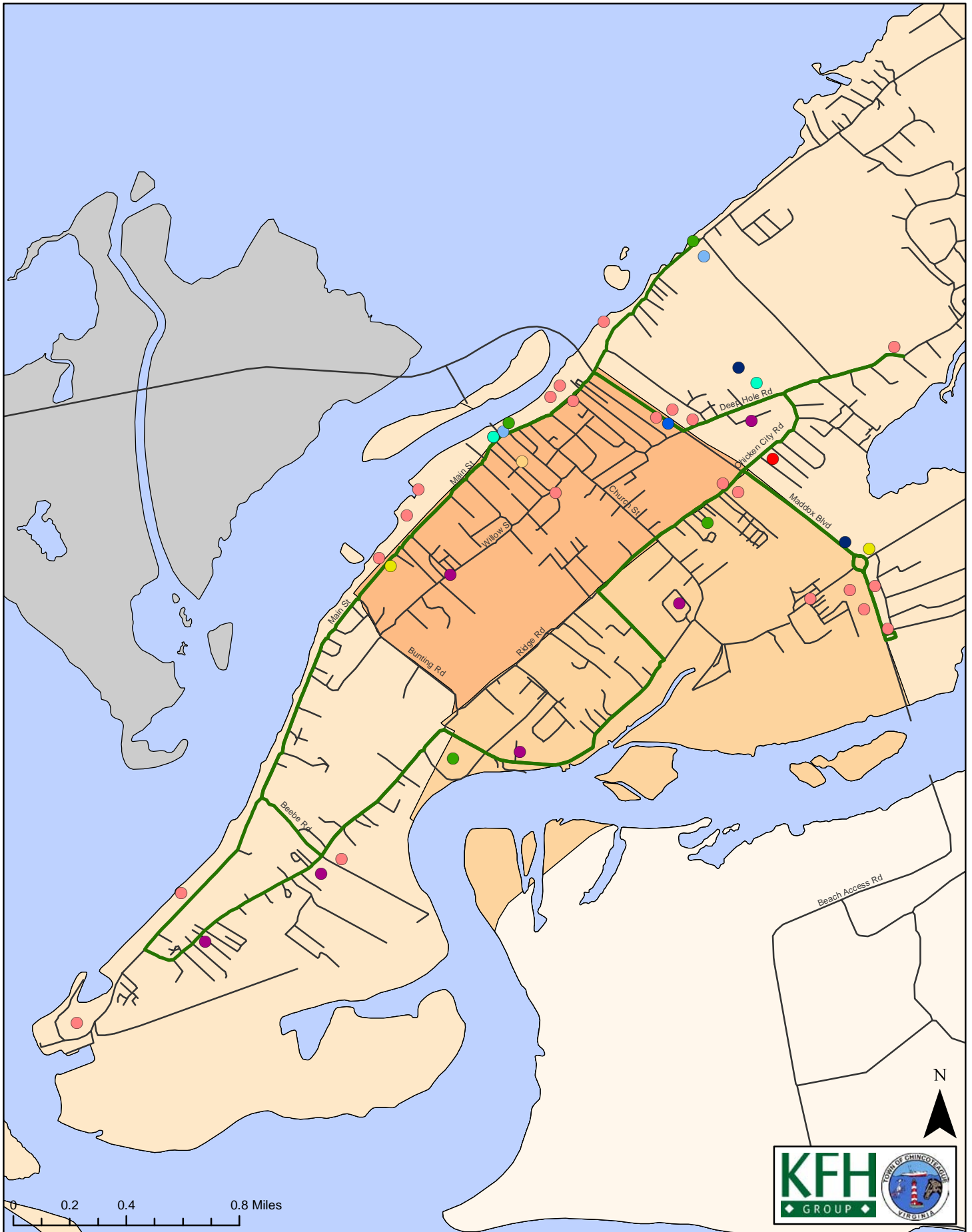
Figure 3-24 shows the trip generators and the population density within the Town of Chincoteague. The map shows that the majority of trip generators are located within or lie just outside of the central two block groups and coincide with the block groups that have over 500 persons per square mile. Therefore, new transit services or any changes to the current transit services targeted toward these areas can serve the highest concentration of people within the Town of Chincoteague as well as the most origins and destinations.

### **High Density Housing**

As a complement to the analysis of population density and transit-dependent populations within Chincoteague, the identification of large multifamily housing complexes, mobile home parks, campgrounds and hotels was conducted. This process provides another effective method in determining where concentrations of the population reside as well as where tourists, who make up a large part of the population during the summer months, reside. The town's high density housing, hotels, and campgrounds are detailed in Table 3-12 and visually represented in Figure 3-25.

Most of the town's hotels are located along Main Street and Maddox Street. The high density housing and mobile home parks are scattered relatively evenly around the island and are all within a quarter-mile of the trolley route. Most of the town's hotels and campgrounds are located along Main Street and Maddox Street. Both Inlet View Campground, located on the southeastern tip of the island, and the Sea Shell Motel, located on Willow Street in the center of the island, are over a quarter-mile distance from the trolley route. The remaining 20 hotels and campgrounds identified are within a quarter-mile distance of the trolley route.

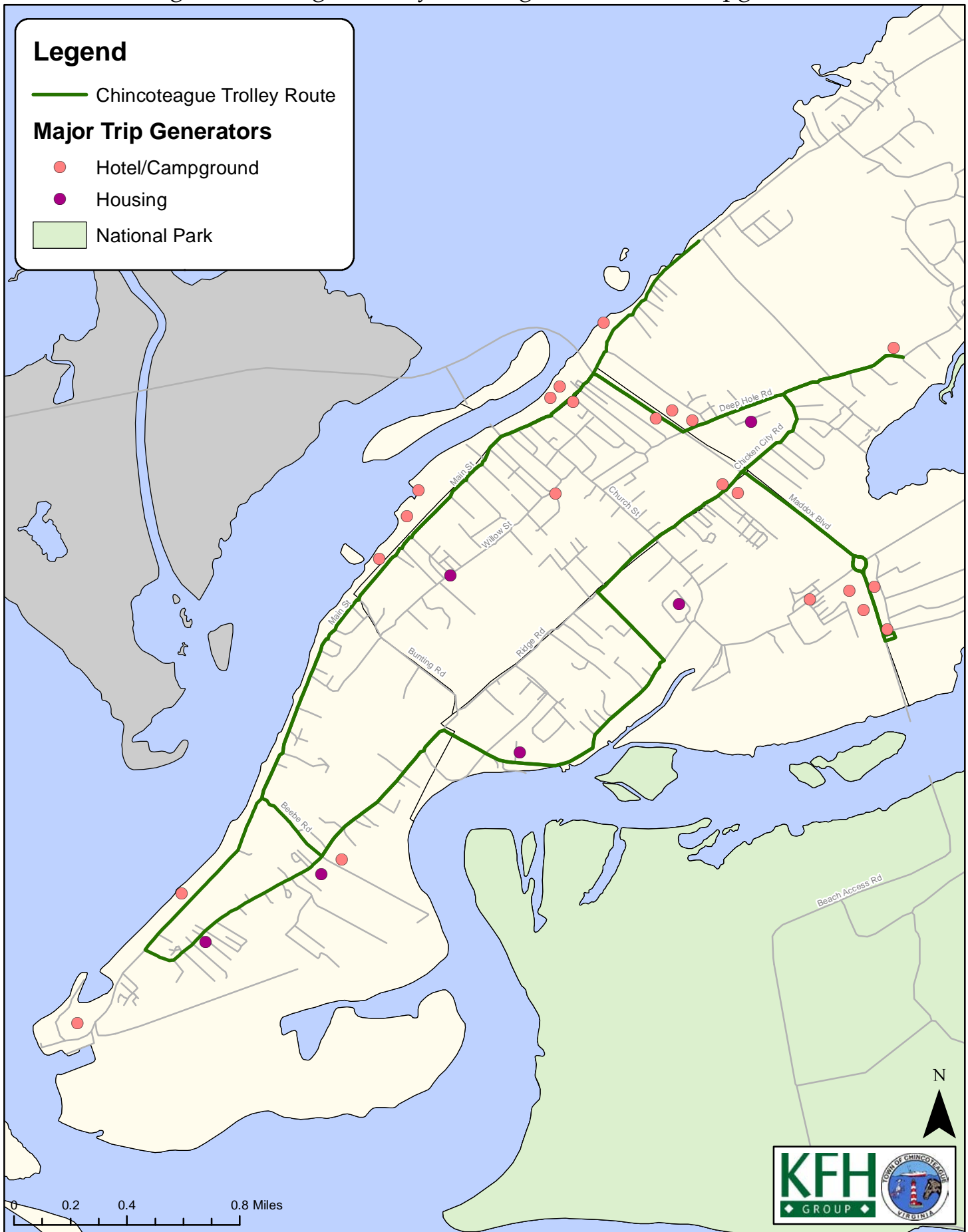
Figure 3-24: Major Trip Generators Overlaid on Population Density



**Table 3-12: High Density Housing, Hotels, and Campgrounds in the Town of Chincoteague, VA**

Type	Name	Address	City	1/2 Mile from Transit Service
Hotel	Anchor Inn	3788 Main Street	Chincoteague	Yes
Hotel	Assateague Inn	6570 Coach's Lane	Chincoteague	Yes
Hotel	Best Western Chicoteague Island	7150 Maddox Boulevard	Chincoteague	Yes
Hotel	Birchwood Motel	3650 Main Street	Chincoteague	Yes
Hotel	Blue Heron Inn	7020 Maddox Boulevard	Chincoteague	Yes
Hotel	Chincoteague Inn Motel	4417 Deep Hole Road	Chincoteague	Yes
Hotel	Comfort Suites	4195 Main Street	Chincoteague	Yes
Hotel	Dove Winds	7023 Maddox Boulevard	Chincoteague	Yes
Hotel	Hampton Inn and Suites	4179 Main Street	Chincoteague	Yes
Hotel	Island Motor Inn	4391 Main Street	Chincoteague	Yes
Hotel	Lighthouse Inn	4218 Main Street	Chincoteague	Yes
Hotel	Payton Place Luxury Suites	2569 Main Street	Chincoteague	Yes
Hotel	Quality Inn	6273 Maddox Boulevard	Chincoteague	Yes
Hotel	Refuge Inn	7058 Maddox Boulevard	Chincoteague	Yes
Hotel	Seahawk Motel	6250 Maddox Boulevard	Chincoteague	Yes
Hotel	Sea Shell Motel	3730 Willow Street	Chincoteague	No
Hotel	Sunrise Motor Inn	4491 Chicken City Road	Chincoteague	Yes
Hotel	Waterside Inn	3761 S. Main Street	Chincoteague	Yes
Campground	Maddox Family Campgrounds	6742 Maddox Boulevard	Chincoteague	Yes
Campground	Tom's Cove Campground	8128 Beebe Road	Chincoteague	Yes
Campground	Pine Grove Campground	5283 Deep Hole Road	Chincoteague	Yes
Campground	Inlet View Campground	Inlet View	Chincoteague	No
Housing	Mobile Home Park	Ridge Road and Beebe Road	Chincoteague	Yes
Housing	Mobile Home Park	Magnolia Drive	Chincoteague	Yes
Housing	Ocean Breeze Mobile Home Park	Seaweed Drive	Chincoteague	Yes
Housing	Grand Bay Court Townhomes	Grand Bay Court	Chincoteague	Yes
Housing	Mobile Home Park	Thomas Circle	Chincoteague	Yes

Figure 3-25: High Density Housing, Hotels and Campgrounds



## POSSIBLE CHINCOTEAGUE POPULATION CHANGES

The Town of Chincoteague's population may change drastically in the future based on the outcome of two ongoing plans. The first of these plans is a Comprehensive Conservation Plan (CPP) for the Chincoteague National Wildlife Refuge. Due to rising sea levels and more frequent storms, Assateague Island's beach parking lots are being washed out more frequently. The U.S. Fish and Wildlife Service (USFWS) is working on a CPP that looks at alternatives to continuing to rebuild the parking lots after every major event, the outcome of which will have a significant impact on the Town of Chincoteague's tourism industry. The second is a site-wide Programmatic Environmental Impact Statement (PEIS) that will evaluate the potential environmental impacts of two action alternatives that meet NASA's need to ensure continued growth at Wallops Flight Facility (WFF) as well as a No Action alternative. As WFF is approximately ten miles from the Town of Chincoteague, the alternative chosen will impact Accomack County's population as well as the population of the Town of Chincoteague.

The USFWS's current concerns could result in the relocation of Assateague Beach's parking facilities. USFWS's first concern is that the beach itself is eroding, causing the loss of approximately 2.5 yards a year. This erosion is raising concern that there soon won't be enough room for both the parking lots and a reasonably sized beach. The second concern is the frequent storms the island is experiencing. In 2009 the parking lots were over-washed eight times and the rebuilding of these parking lots can cost more than \$600,000 each time.<sup>6</sup> The CCP has proposed four alternatives ranging from no action to the elimination and relocation of all beach parking capacity.<sup>7</sup> The Town of Chincoteague responded to the USFWS's four alternative management strategies by endorsing the *1-2-3 Common Sense Plan* for storm damage reduction at Tom's Cove.<sup>8</sup> This alternative would maintain existing facilities, continue to permit compatible uses, and provide hurricane/erosion control protection for the seashore and for the Chincoteague Island community.

The alternative chosen to be the vision for the Chincoteague National Wildlife Refuge's future will have a significant impact on the number of visitors that come to Chincoteague Island. The Town of Chincoteague's questionnaire, previously discussed in the review of existing plans, demonstrated that, of the 2,854 visitors who answered the questionnaire, a significant majority (82%) stated that the primary reason they come to Chincoteague is to go to Assateague Beach. This same percentage (82%) stated that

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<sup>6</sup> Parking Lots for Assateague Beach at Issue, A Journal of Natural Resources, Public Affairs and Culture on the Eastern Shore of Virginia.

<sup>7</sup> U.S. Fish and Wildlife Service, Chincoteague National Wildlife Refuge Draft CCP Alternatives.

<sup>8</sup> Chincoteague National Wildlife Refuge and Assateague Island National Seashore, 1-2-3 Common Sense Plan.

they would not return to visit Assateague Beach if direct beach parking was not available and a trolley/bus from a remote parking lot in Chincoteague was available instead. If the respondents' answers are representative of a majority of the Town of Chincoteague's visitors, the island would lose a significant number of visitors if an alternative were chosen that doesn't include the future maintenance and existence of beach parking lots.

The WFF, located in Wallops Island, Virginia, ten miles west of the Town of Chincoteague currently employs a total of 2,341 persons and has a total annual regional economic impact of \$188 million.<sup>9</sup> The PEIS's Proposed Action is to provide new facilities and infrastructure that would support existing missions as well as "modernized functionality to meet future operational mission requirements in direct support of WFF's strategic goals." The PEIS will evaluate the potential environmental impacts of two alternatives as well as a No Action alternative.

The first alternative supports the expansion of restricted airspace, the increase of U.S. Navy pilot proficiency training, the installation of two permanent rocket launchers, and the introduction of new opportunities and expansion of existing NASA and DoD programs at Wallops. The second alternative includes all activities described in Alternative One and supports additional construction projects and new mission opportunities, including the introduction of commercial manned space flight from WFF. Under the No Action Alternative, WFF would continue the existing operations and programs.<sup>10</sup> If Alternatives 1 or 2 are pursued, WFF would hire numerous additional full time employees and surge employees who might choose to live in the Town of Chincoteague, potentially resulting in a significant increase in Town residents.

Although it is difficult to give appropriate recommendations at this time due to the uncertainty surrounding the outcome of the plans, it is important to recognize the impact that these plans will have on the population of the Town of Chincoteague and subsequently on the services that the Chincoteague Trolley should provide.

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<sup>9</sup> Wallops Site-wide Programmatic Environmental Impact Statement Public Scoping Meeting, NASA Wallops Flight Facility.

<sup>10</sup> Site-wise Programmatic Environmental Impact Statement for expanding operations at Wallops' Flight Facility, NASA.





## **Chapter 4**

# **Service and Organizational Alternatives**

### **INTRODUCTION**

This fourth chapter prepared for the Town of Chincoteague TDP provides a range of service and organizational alternatives for the Pony Express to consider when planning transit services for the six-year horizon covered by the TDP. These alternatives have been developed based on the data compiled and analyzed in Chapters 1-3. The service alternatives are presented first, followed by the organizational alternatives.

These alternatives are modest in scope, reflecting the maturity of the system, relatively slow growth in the region, and the challenging economic conditions. The selected alternatives will need to be included in the Statewide Transportation Improvement Program (STIP) for the anticipated year of implementation. DRPT is responsible for including the TDP plan elements in the STIP. If and when the TDP is amended by the Town of Chincoteague as a result of its annual review of implementation progress, the amendments need to be transmitted to DRPT for inclusion in the amended STIP, to ensure that the projects are eligible for federal funding.

### **SERVICE ALTERNATIVES**

The previous chapter provided an evaluation of current Pony Express services, as well as an analysis of transit needs based on quantitative data and on input from Pony Express customers and other key stakeholders. Through the service review, needs assessment, and outreach, there are specific service improvements that should be considered for implementation. These alternatives focus on:

1. Additional hours of service;
2. Adjusted Fall weekends days of service;
3. Minor route adjustments;
4. Improved passenger information;
5. Continued coordination with STAR Transit; and
6. Regional connector service to Salisbury, Maryland and the University of Maryland Eastern Shore (UMES) in Princess Anne.

Each service alternative is detailed in this section, and includes (where applicable):

- A summary of the service alternative,
- Potential advantages and disadvantages,
- Ridership estimates,
- An estimate of the operating and capital costs,
- Potential funding sources or issues, and
- Compatibility with local land use planning.

It should be noted that these alternatives are designed to serve as a starting point and can be modified as needed based on the needs of the Town and stakeholder input. In addition, the cost information is expressed as the fully allocated costs, which means we have considered all of the program's costs on a per unit basis when contemplating expansion. This does overstate the incremental cost of minor service expansion, as there are likely to be some administrative expenses that would not be increased with the addition of a few service hours. The cost estimates will be refined during the alternatives discussion with staff from the Town of Chincoteague.

### **Service Alternative #1: Earlier Hours of Service**

Currently the Town of Chincoteague provides trolley service typically from around 5:00 p.m. until 10:25 p.m. (a handful of dates have extended hours as posted on the Trolley Schedule). The passenger survey results indicated that riders would like to have transit service hours extended. This request is supported by stakeholder input that visitors are returning from the beach earlier, thus in need of a ride earlier than the current 5:00 p.m. start time. This proposal addresses that request by adding one operating hour for each of the two routes, so that the Green Route would operate beginning at 4:00 p.m., and the Red Route would start at 4:15 p.m. Additional hours

could be considered in the future (both earlier or later) if there is sufficient ridership growth and demands from the merchants and Town of Chincoteague.

Adding two revenue hours per day (one for each of the two routes) would result in about 185 additional annual revenue service hours for the Town of Chincoteague.

### *Advantages*

- Provides an extra hour of service for Pony Express riders.
- Addresses a need articulated via the passenger surveys and stakeholder interviews.

### *Disadvantages*

- Would increase the annual operating expenses.
- Adds service that is not likely to be as productive as service during other parts of the evening.

### *Expenses and Funding Sources*

- Using the Town of Chincoteague's fully allocated cost per hour of \$64.98, 185 additional service hours would cost around \$12,000 annually in operating expenses. No additional capital would be required.
- With an average farebox recovery of 8%, the net deficit for this expansion would be \$11,400. It is proposed that this deficit be split in the same manner as the current net deficit, which is 50% Federal Section 5311, 15% State, and 35% Town of Chincoteague.

### *Ridership*

- The current average ridership per revenue hour is between 12 and 13 passenger trips per revenue hour (FY 2010 data indicate 12.24 passenger trips per revenue hour and the count data were closer to 18 passenger trips per revenue hour – due to counts performed during the season's peak). Assuming that the first hour of service will have below average ridership, it is estimated that about 1,850 additional passenger trips would be generated by an additional hour of service.

### *Compatibility with Land Uses*

- This alternative is compatible with local land uses, as it would provide greater opportunity for transit access to existing development.

## **Service Alternative #2: Reducing the Fall Season's Two-Day Weekend Service to Just Saturdays**

The Pony Express service season runs through the end of October. During this “fringe” period the trolley runs solely on Fridays and Saturdays. Due to limited ridership on Fridays, this alternative proposes eliminating Friday service in October and extending the Fall service season into the first few weeks of November by just operating on Saturdays. This is supported by data from the service in 2011 where it was reported that a late October Friday generated only 4 riders yet the Saturday ridership was about 90 people.

### ***Advantages***

- Extends the Fall service season by 2-4 weeks depending upon the number of Friday service days that are eliminated.
- Is cost neutral
- Will increase ridership.

### ***Disadvantages***

- Would only provide service one day a week.

### ***Expenses and Funding Sources***

- This change is cost-neutral.

### ***Ridership***

- The ridership increase would be modest compared to the “peak” season average, yet there would be a significant upswing compared to the existing Fall ridership numbers. An additional 80 people per week is expected by offering only Saturday service.

### ***Compatibility with Land Uses***

- This alternative is compatible with local land uses, as it would provide greater opportunity for transit access to existing development.

## **Alternative #3: Minor Route Adjustments for the Red Route**

The Pony Express service is a fixed route service with route deviation for anyone that request it, as such they do make minor route adjustments each day depending

upon flag stops and people who may call to request a ride. The focus of this alternative is to suggest a minor change to the basic structure of the Red Route.

It is proposed that the High School stop be eliminated as a time point from the schedule, along with the stop at Taylor Street and Main Street. Additionally, this alternative proposes to eliminate the time point for Ocean Breeze which also carries modest ridership and also is very hard on the vehicles. Figure 4-1 provides a map of the Red Route with this modification. It could still be served via a deviation, but would not appear on the printed schedule. This would add a little time into the schedule that could offset periods when traffic is heavy, as well as from delays associated with the drawbridge.

### *Advantages*

- Eliminates time points with few if any riders – based on on-off counts performed these stops were ranked lowest via the annual Drivers Stop Rankings.
- Adds extra time to the existing route where delays are prevalent.
- Less physical wear and tear on the trolleys
- Is cost neutral.

### *Disadvantages*

- The only disadvantage is that this change will require that new maps be printed.

### *Expenses and Revenues*

- This change is cost-neutral.

### *Ridership*

- This change is not expected to have a significant impact on ridership, though more riders may see a slight increase in regards to on-time performance. Without the high school and Ocean Breeze being listed as a time point, there may be people who do not realize that the Red Route will flex there upon request.

### *Compatibility with Land Uses*

- This alternative is compatible with local land uses, as it would provide greater opportunities for transit access to major economic areas.

Figure 4-1: Proposed Red Route Modifications



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## Alternative #4: Passenger Information and Amenity Improvements

The Town of Chincoteague does not currently provide a detailed route map that lists the stops by location other than the time points. The policy of flag stops also adds to the indistinct nature of the route. These factors are not an issue for regular riders who know the system, but pose a barrier for new riders who are not familiar with the system. This proposal focuses on improving passenger information and amenities for the Town of Chincoteague.

The first initiative suggested for improving passenger information is the development of a route map that details each stop location. While the Pony Express operates on a fixed-route flag stop basis, the identification of each stop location is critical for tourists circulating around the island. The distribution of the Pony Express route map/riders guide is a vital component. The Town of Chincoteague should survey each local establishment to determine if they stock brochures on Island attractions. If so, request that the Pony Express be part of this display (example is that Famous Pizza has brochures displayed at their counter, but the Pony Express Trolley Schedule was not included).

Another proposed improvement is additional bus stop signs which would lessen the need for flag stops. This would also help riders identify stop locations and improve the visibility of the Pony Express within the community. It is proposed that additional Pony Express trolley stop signs be installed at each of the flag stops that receive multiple riders:

- Etta's Restaurant
- Best Western
- East Side Drive/McGee
- Famous Pizza
- Mr. Baldy's

### *Advantages*

- Provides riders with specific information regarding transit service stops and routes.
- Improves the visibility of the Pony Express within the community.

### *Disadvantages*

- Cost of new capital for the trolley stop signs.
- Safety for pedestrians at some of these locations.

### ***Expenses and Funding***

- Cost estimates for the two proposed improvements are as follows:
  - Redesigned Trolley Schedule Route map to include more detailed stop information and printing: \$5,000.
  - Trolley stop signs are generally about \$100 installed. Adding signs to the five flag stops identified within the system, the total cost for these signs would be about \$500.
- Printing and reproduction costs are part of the Town of Chincoteague's operating budget and would be funded through the typical funding ratios, which are 50% Federal Section 5311 and 50% local. RTAP funds also might be available for marketing materials – to advertise adjusted routes and stops.
- The trolley stop signs are capital items and could be included as part of the Town of Chincoteague's annual capital budget, which is funded by Federal (80%), State (up to 15%), and local funds (between 5% and 20%).

### ***Ridership***

- It is likely that providing more information about the Pony Express for the public and increasing the presence in the community will result in a small increase in ridership.

### ***Compatibility with Land Uses***

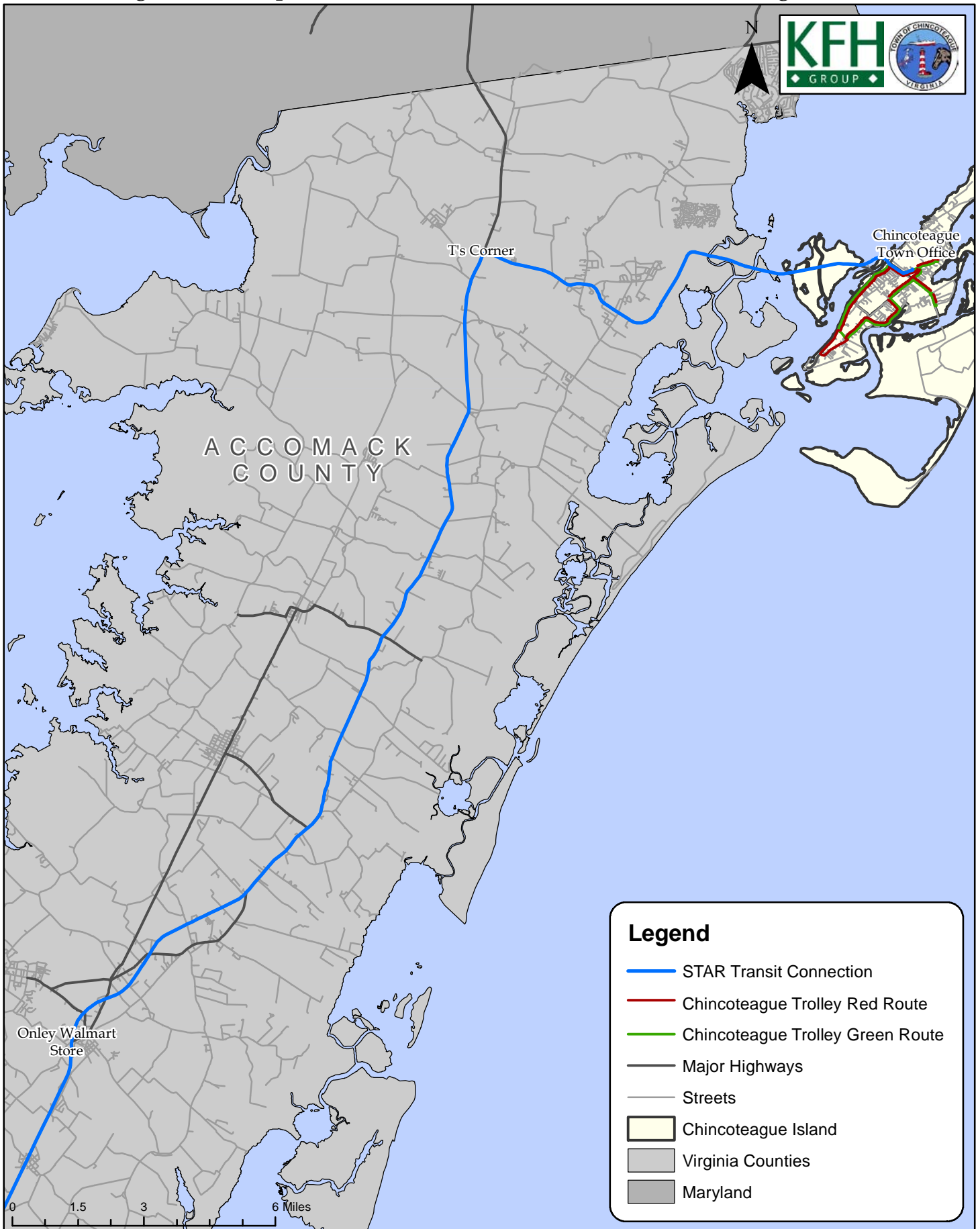
- This alternative is compatible with local land uses, as it would provide greater opportunity for transit access to existing development.

## **Alternative #5: Expand Service from Chincoteague to the Route 13 Business Corridor**

A New Freedom Route that has been approved by DRPT and scheduled to begin service in the Spring of 2012 is service from the Town of Chincoteague along the Route 13 Business Corridor (Figure 4-2 is a conceptual map of this route). This coordinated service between the Town of Chincoteague (providing local funding support) and STAR Transit (the operator of the service) is designed to provide access for the elderly, disabled, and unemployed community on Chincoteague Island. Deviated fixed-route service will be provided Monday through Friday, allowing seniors and disabled citizens the opportunity to connect to essential services. Currently, two round-trip northbound and southbound runs are programmed. Based on the success of this service, additional round-trip runs are recommended. Initially, two simultaneous mid-day runs are



Figure 4-2: Proposed STAR Transit Connection to Chincoteague Island



recommended as a means to shorten the intervals between service. If demand warrants, additional morning and afternoon/early evening runs should be explored.

### *Advantages*

- Responds to a need indicated by the stakeholder interviews.
- Provides access off the island to medical and shopping, and governmental destinations.

### *Disadvantages*

- A similar route that was run five years ago did not generate enough ridership to continue this service connection.
- There are significant expenses associated with implementing the route.

### *Expenses and Funding Sources*

- **Operating:** Contracted service with STAR Transit for 2.5 service hours per day, Monday through Friday – the total annual revenue service hours would be 625. The fully allocated annual operating cost would be just under \$30,000 annually (assuming a rate of \$48 per hour).
- **Funding:** It is proposed that the operating costs associated with this route be funded initially through the Federal Section 5317 program (95%), with the local match required for this route funded through the Town of Chincoteague and/or Accomack County.

### *Ridership*

- It is estimated that this route could provide two to three passenger trips per revenue hour. This estimate is based on the experiences of STAR Transit (around 6 trips per revenue hour), scaled down to reflect growing pains of a new route. If the route generates four passenger trips per revenue hour, the annual ridership would be around 2,500 passenger trips.

### *Compatibility with Land Uses*

- This route is compatible with local land uses, as it serves to connect existing population centers in the region, with a focus on medical and shopping needs.

## **Alternative #6: Expand Service from Chincoteague to Peninsula Regional Medical Center in Salisbury, Maryland via the UMES in Princess Anne**

From the stakeholders' interviews, one of the major themes that emerged was that there is a need for regional connectivity for medical services and education. The focus of this alternative is to develop a regional service that would connect the Town of Chincoteague to Peninsula Regional Medical Center in Salisbury, Maryland via the UMES in Princess Anne, Maryland. The route would originate in the Town of Chincoteague and travel north through the region, following US-13. It would also circulate around Salisbury before making its return trip. Although Greyhound serves UMES and Salisbury from T's Corner, three times daily, the one-way fare is \$16.

Figure 4-3 provides a map of the proposed route. The route would take 1½ to 2 hours (one-way) and cover about 50 miles, resulting in a 100-mile round trip. Two round trips per day are proposed for the Chincoteague to Salisbury Connector.

### ***Advantages***

- Responds to a need indicated by the stakeholder interviews.
- Provides regional mobility.
- Provides access to educational, medical, and shopping destinations.

### ***Disadvantages***

- The demand for this type of service is untested in this region.
- There are significant expenses associated with implementing the route.
- Would need to verify correct insurance coverage is in place before implementing interstate travel.

### ***Expenses and Funding Sources***

- **Capital:** Two contracted vehicles would be needed for this service (cost built into the contractor's rate).
- **Operating:** If two vehicles were contracted from STAR Transit and each operated six hours per weekday (8:00 a.m. to 2:00 p.m., and 11:00 a.m. to 5:00 p.m., 250 days), the total annual revenue service hours would be 3,000. The fully allocated annual operating cost would be \$144,000 annually (assuming a rate of \$48 per hour).
- **Funding:** It is proposed that the operating costs associated with this route be funded through the Federal Section 5316 and/or Section 5317 program(s) (50%-95%, depending upon the funding program), with the local match required for this route funded through the Town of Chincoteague and/or Accomack County.

Figure 4-3: Proposed Regional Service to Salisbury Via Princess Anne



### ***Ridership***

It is estimated that this route could provide two to three passenger trips per revenue hour. This estimate is based on the experiences of STAR Transit (6 trips per revenue hour), scaled down to reflect lower expectations for a new route. If the route generates four passenger trips per revenue hour, the annual ridership would be just over 12,000 passenger trips.

### ***Compatibility with Land Uses***

- This route is compatible with local land uses, as it serves to connect existing population centers in the region, with a focus on medical and educational centers.

## **ORGANIZATIONAL ALTERNATIVES**

Organizational alternatives include proposals for potential changes that affect the way that transit is guided, administered, and/or managed in the Town. The Town of Chincoteague's basic organizational structure for the Pony Express is well-established. The organizational alternatives developed for consideration do not contemplate any major organizational changes, but rather additional options for the Town of Chincoteague to consider.

### **Organizational Alternative #1: On-Going Transit Advisory Committee (TAC)**

Many transit agencies have found that it is helpful for them to have a TAC beyond just the requirements for a TDP. A TAC is comprised of community stakeholders who have an interest in preserving and enhancing transit in the community. Typical TAC members would include representatives from the following types of organizations:

- Social Services
- Health Department
- Human Service Agencies
- Aging/Senior Services
- Planning District Commission
- Chamber of Commerce
- Disability Advocates
- Town Planning Department
- Elected Official Liaison

The role of a TAC is to help the transit program better meet mobility needs in the community by serving as a link between the citizens served by the various entities and public transportation. A TAC is a good community outreach tool for transit programs, as having an ongoing dialogue with stakeholders allows for a greater understanding for transit staff of transit needs in the community, as well as greater understanding by the community of the various constraints faced by the transit program. TAC also typically serve in an advisory capacity for other transit initiatives. The role of the Town Council would remain unchanged in that they would still be the ultimate guide for the Pony Express, however the TAC would alleviate some of the burden on the Council.

For the Town of Chincoteague, it is suggested that the TDP's TAC continue beyond the study, serving in an advisory capacity for the Pony Express. This will allow for enhanced local and regional coordination, allowing transit needs to be met in the most effective manner. It is proposed that this TAC meet twice a year -- once prior to the grant cycle so that new initiatives can be coordinated, and once mid-way through the funding year.

### *Advantages*

- Provides a forum for dialogue between the community and the transit program.
- Provides a venue for community networking.
- Can be a good community relations and marketing tool.
- Provides enhanced regional coordination.

### *Disadvantages*

- Takes staff time to organize and document TAC meetings and initiatives.

### *Expenses and Revenues*

- The expenses associated with the TAC are modest and include the cost associated with the staff time spent planning and organizing the meetings, as well as any printing and presentation materials needed for the meetings.

### *Ridership*

- While formalizing the TAC will not have a direct effect on ridership, it may generate ideas that will help boost ridership.

## **Organizational Alternative #2: Volunteer Driver Program**

Another unmet need in the region is for off-season transit services. There is not likely to be enough demand for public transportation services to be provided during the non-tourist season, but it may be possible to develop a volunteer driver program to offer some limited services. This pool of volunteers would likely be retirees who wish to volunteer, and are available during the day.

### *Advantages*

- Offers a way to provide limited service with low expenses, using existing resources.
- Provides a new volunteer opportunity in the community.

### *Disadvantages*

- May be difficult to recruit volunteers who are available during the day.
- May be difficult to manage demand for daytime service.
- Greater than just a Town level issue, more a regional/human services level role.
- Cost to run the program.

### *Expenses and Revenues*

- Expenses for this program would be the need to have a dispatcher available, should there be an emergency situation, insurance (available through Virginia's Department of Risk Management), training, etc. This cost is completely dependent upon how many days the Town of Chincoteague chooses to supply volunteer drivers. It is proposed that this type of program be funded through Virginia's Senior Transportation program, as well as through the New Freedom program if it is chosen for implementation.

## **SUMMARY AND NEXT STEPS**

This section has provided a number of alternatives for the Town to consider with regard to public transit services over the next six years. Table 4-1 provides a summary of these proposals. The entire menu of alternatives offers a fairly aggressive expansion, adding 3,810 annual revenue hours to the existing system (including contracted service). There are some additional revenue sources that may be available to help fund these expansions, and these will be more completely researched if the TAC wishes to pursue these alternatives.

**Table 4-1: Town of Chincoteague TDP - Summary of Alternatives**

<b>Project Description</b>	<b>Purpose</b>	<b>Annual Revenue Service Hours</b>	<b>Annual Operating Expenses</b>	<b>Capital Expenses</b>	<b>Proposed Funding Sources</b>	<b>Estimated Ridership</b>
Service Alternative #1: Earlier Hours of Service	Provide service for an hour earlier, responding to a need articulated by survey respondents.	185	\$12,000	\$ -	Section 5311 and local	1,850
Service Alternative #2: Minor Route Adjustments for the Red Route	Offer more convenient service.	-	\$ -	\$ -	N.A.	-
Service Alternative #3: Passenger Information and Amenity Improvements	Provide additional information to the community and improve the visibility of the Pony Express in the Community.	-	\$5,000	\$500	Section 5311 and local	-
Service Alternative #4: Expand Service from Chincoteague to Route 13 Business Corridor	Expand service to the Route 13 Corridor by adding a north/south midday run.	625	\$30,000	\$ -	Section 5317 and local	1,250
Service Alternative #5: Regional Connectivity from Chincoteague to Salisbury via Princess Anne	Provide service from Chincoteague to Peninsula Regional Medical Center in Salisbury and the UMES in Princess Anne.	3,000	\$144,000	\$4,300	Section 5316 and/or Section 5317 and local	6,000
Organizational Alternative #1: On-going Transit Advisory Committee	Provide a forum for dialogue between the community and the Pony Express.	-	minimal	\$ -	N.A.	-
Organizational Alternative #2: Volunteer Driver Program	Recruit volunteers who would be willing to provide transportation so that some mobility would be available in the off-season.	-	Not yet determined	\$ -	DRPT's Senior Transportation Program, New Freedom and local.	-
<b>TOTALS</b>		<b>3,810</b>	<b>\$ 191,000</b>	<b>\$ 4,800</b>		<b>9,100</b>



These alternatives were presented to the Transit Advisory Group for review and comment in October, 2011. The Group was asked to decide which alternatives should move forward to the six-year plan, as well as to provide any additional alternatives that may have been overlooked thus far, and which should be included in the vision Plan.

The group reviewed the advantages, disadvantages, costs, and possible ridership of each alternative, and decided on the following:

**Financially Constrained Alternatives (in order of proposed phasing)**

- **Maintain Current Service, Capital Replacement**
- **Increased Marketing:** Money is available now through RTAP (up to \$2,500) for marketing
- **Expanded Service Hours/Days:** The group agreed on starting with an expansion of the Fall season days. This is a cost neutral change that will add Saturday service into November by eliminating Friday service in October. Next, would be the introduction of earlier service hours by adding one operating hour for each of the two routes. This would be done in phases with the initial change occurring in the “peak” season (July and August) and then for the whole season a year or two later based on ridership.
- **Minor Route Adjustments:** The group decided on modifying the route by making the less productive legs only available through deviations. This would make the route more efficient and productive, as well as reduce the wear and tear on the trolleys.
- **Add Two Trolley Stops:** The group endorsed creating two permanent trolley stops where frequent flag stops occur. Specifically, stops would be created at Etta’s Restaurant and at East Side Drive and McGee Lane.
- **Mid-Day Run for Town of Chincoteague-Route 13 Business Corridor:** Introduce two round-trip mid-day runs to shorten the intervals between runs.

***Vision Alternatives***

- **Regional Service to Salisbury, MD:** This option is visionary but can always be transferred to constrained and implemented earlier. This service would provide a transportation option to connect the Town of Chincoteague to Peninsula Regional Medical Center in Salisbury (as well as other Salisbury destinations) via the UMES in Princess Anne, Maryland.

The chosen alternatives were carried forward to the six-year plan. These alternatives will be included in the operations plan, the capital plan, and the financial plan that make up the next three chapters of the TDP.

## Chapter 5

# Operations Plan

### INTRODUCTION

The development of the Town of Chincoteague TDP has included four technical memoranda (documented in Chapters 1-4), which provided an overview of transportation; discussed goals, objectives, and standards; analyzed the need for transit services; and proposed financially constrained and vision alternatives for the Town of Chincoteague to implement over the next six years. The process has been guided by Town staff, with input from DRPT and area stakeholders. Chapters 6 and 7 provide companion capital and financial plans.

This chapter provides the Operations Plan. It details the specific projects that the Transit Advisory Group has endorsed for implementation, broken down into financially constrained and vision categories. While the former follow a six year timeline, the latter is indeterminate, as the year of possible implementation is unknown. The TDP recognizes current financial constraints while allowing the Town of Chincoteague to adapt to changing circumstances, and consider accelerated implementation during its yearly reviews. Focusing first and foremost on the financially constrained category, the Town of Chincoteague can better achieve its transportation program goals.

The operational changes included in this chapter include cost estimates that are based on the FY 2012 budget (\$75,400) submitted to DRPT by the Town of Chincoteague. The service hours have remained fairly constant over the previous three years, so an average was calculated (1,091 hours) for purposes of this analysis. Using these figures the estimated operating cost for FY 2012 is \$69.11, rather than the \$64.98 per hour figure from FY 2010. The Operations Plan includes the following projects:

- Financially Constrained
  1. Maintain current service (FY 2012 and subsequent years)
  2. Increased marketing (FY 2013)
  3. Expanded service hours/ days (FY 2014-2016)
  4. Minor route adjustments (FY 2014)
  5. Add two trolley stops (FY 2014)
  6. Mid-day run for Town of Chincoteague-Route 13 Business Corridor Route (FY 2015)
- Vision
  1. Regional service to Salisbury, MD

## **FINANCIALLY CONSTRAINED PROJECTS**

### **Maintain Current Service with Capital Replacements (FY 2012 and Subsequent Years)**

The Town of Chincoteague provides two fixed trolley routes oriented towards transporting people to and from motels, campgrounds, retail shops, eating places, and the downtown area from 5:00 p.m. to 10:25 p.m. The Green Route service commences the first Saturday in May and adds service progressively until full operations are running with two routes (Green and Red Routes) both weekdays and weekends. Service is then scaled back after Labor Day and concludes the middle of October. This project maintains current service and assumes timely vehicle replacements (included in Chapter 6).

- At the current level of service, the Town of Chincoteague's operating expenses would increase by an assumed 3% rate of inflation each year over the FY 2012 budget cost figure used as the base.
- The operating deficit would be split up to 50% Federal Section 5311, 15% state, and 35% local. This assumption obviously depends on the continued availability of federal and state funding under the current programs.
- The Town of Chincoteague's two primary trolleys were requested for replacement in the Fiscal Year 2012 application. If awarded, they would be available for service at the beginning of Fiscal Year 2014.
- Capital costs would be split 80% federal, 10% state, and 10% local.

- Ridership is likely to remain at its current level.

### **Increased Marketing (FY 2013)**

Results from the general public survey and stakeholder interviews suggest that although the majority of Town of Chincoteague residents and tourists are aware of the Pony Express service, many do not know location of the service in proximity to their origin (where they live or are staying) and destination (shopping, restaurant, etc.). This project involves increased marketing of the Town of Chincoteague's current general public services, focusing on the ease and convenience of the service. Expanded trolley stop signage with a map of the service and a "You are Here" dot at each trolley stop would improve the visibility of the Pony Express to tourists and members of the community.

- Trolley stop signage is estimated to cost \$50 per sign. If 23 signs are purchased and installed (one for each stop), the total cost is estimated to be \$1,150 (FY 2013). The Town of Chincoteague should implement marketing efforts in FY 2013 through the Federal Transit Administration's Rural Transit Assistance Program (RTAP). Funding is available up to \$2,500, with no required local match.
- Updates to the Town of Chincoteague's marketing materials will be necessary every year following FY 2013, corresponding to implementation of expanded service hours and days, as well as for any new trolley stops. It is proposed that FY 2014, 2015, and 2016 include \$500 for these expenses.
- Increased marketing may result in a small increase in ridership, but predicting this change is difficult. Additional community-wide knowledge of the services could result in more support for transit even among non-users.

### **Expanded Service Hours/Days (FY 2014-2016)**

The desired improvements cited most frequently through the on-board survey were extending the trolley hours and offering year round service. This project addresses rider concerns by extending the service year into November (FY 2014), followed by an additional hour of service for each of the two routes an hour earlier during the "peak" season (FY 2015), and finally adding this earlier hour of service to the entire trolley service season (FY 2016).

An expansion of the trolley season is the first priority. The annual service hours would remain unchanged – the added Saturday service is directly correlated to the number of Friday service days that are eliminated in October. Pending driver feedback,

the additional earlier hour of service planned for FY 2016 could instead be implemented in 2017 based on perceived usage.

- The expansion results in about 126 additional revenue hours per system in FY 2015 and 59 additional in FY 2016.
- Using the Town of Chincoteague's fully allocated average operating cost per hour of \$75.52 (FY15)<sup>1</sup>; 126 additional revenue hours during the "peak" season would cost about \$9,515 annually in operating expenses. Extending the earlier hour of service to the entire trolley season (59 revenue hours for the "non-peak" season) would cost an additional \$4,600 (FY16). No additional capital would be required.
- Maintaining the budgeted FY 2012 average farebox recovery of 8%, the net deficit for adding one more hour of service during the "peak" season in FY 2015 is about \$ 8,750 and about \$4,230 for an additional hour of service for the "non-peak" season.
- It is proposed that this deficit be split up to 50% Federal Section 5311, 15% state, and 35% local. This assumption depends on the continued availability of federal and state funding under the current programs.
- Assuming an average ridership of eight passenger trips per hour, an additional hour of service would generate an estimated 1,008 annual passenger trips for the "peak" season trips, one additional hour during the "non-peak" season would generate an estimated 472 annual passenger trips.
- For each of these service expansions, users will need to be informed through revised information flyers, advertisements, etc. Funding for printing and other expenses will be included for these marketing efforts.

### Minor Route Adjustments (FY 2014)

The two Pony Express routes operate as fixed-route service with route deviation for anyone that requests it. As such they do make minor route adjustments each day depending upon flag stops and people who may call to request a ride. The focus of this recommendation is to suggest a few potential minor changes to the basic structure of the Red Route.

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<sup>1</sup> This hourly cost is the FY 2012 hourly cost of \$69.11/hour with three years of projected inflation of 3%.

It is recommended that the High School, Ocean Breeze, and Taylor Street & Main Street stops be eliminated as fixed-route stops. Each of these locations can still be served as a deviation, but will not appear as a fixed stop on the printed schedule. These changes are the result of very low ridership at the three existing stops, as well as to preserve the vehicles due to the unforgiving conditions (unpaved road) at Ocean Breeze.

- This change is cost-neutral with regard to operating cost. This change will necessitate a revision of the schedules (as do some other changes included within this plan). The cost to revise the schedules is included with the discussion of improved passenger information and infrastructure.
- This change is not expected to have a significant impact on ridership, though more riders may be attracted to the service based on improved on-time performance.

### **Add Two Trolley Stops (FY 2014)**

The Pony Express has 23 trolley stops along the Green and Red Routes. Additionally, flag stops are employed which allow passengers to board the trolley anywhere along the route as long as the location is safe for both the passengers and the vehicle. Based on the analysis performed, two additional “permanent” trolley stops are recommended for Etta’s Restaurant and East Side Drive & McGee Lane which would lessen the need for flag stops along East Side Drive. Adding signage to these key stops will offer riders an official designated waiting spot and will increase the visibility of the transit program in the community.

- It is expected that providing additional bus stop signs throughout the community will result in a modest increase in transit ridership through the improved visibility of the program.
- Bus stop signs typically cost about \$100 each, installed. If two signs are purchased and installed, the total cost is estimated to be \$200 (FY 2014).
- Bus stop signs are considered capital expenses. As such, they are eligible to be funded through the Federal Section 5311 program, with a typical matching ratio of up to 80% federal, 10% DRPT, and 10% local.

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**Mid-Day Run for the Town of Chincoteague-Route 13 Business Corridor Route (FY 2015)**

A service from the Town of Chincoteague along the Route 13 Business Corridor has been approved by DRPT using New Freedom funds. The service is scheduled to begin in the Spring of 2012. This coordinated service between the Town of Chincoteague and STAR Transit (the operator of the service) will provide access for the elderly, disabled, and unemployed community on Chincoteague Island to this corridor. Deviated fixed-route service will be provided Monday through Friday on two round-trip northbound and southbound runs. Based on the success of this service, additional round-trip runs are recommended by this plan. Initially, two simultaneous mid-day runs are proposed as a means to shorten the intervals between services.

- Using the STAR Transit's fully allocated average operating cost per hour of \$52.45 (FY15);<sup>2</sup> 625 additional revenue hours would cost about \$32,780 annually in operating expenses. No additional capital would be required.
- It is proposed that this deficit be split up to 50% Federal Section 5311, 15% state, and 35% local. This assumption depends on the continued availability of federal and state funding under the current programs.
- It is estimated that this route could provide two to three passenger trips per revenue hour. This estimate is based on the experiences of STAR Transit (around 6 trips per revenue hour), scaled down to reflect difficulties besetting a new route. If the route generates four passenger trips per revenue hour, the annual ridership would be around 2,500 passenger trips.

## **VISION PROJECTS**

The vision project included in the TDP represents a more ambitious and long-term action for the Town of Chincoteague. Due to the undetermined timeline, the vision project reflects FY 2012 budget cost levels per service hour.

### **Regional Service to Salisbury, Maryland**

One of the major topics that emerged from the study outreach process was that there is a need for regional connectivity to medical services and education. The focus of this alternative is to develop a regional service that would connect the Town of Chincoteague to Peninsula Regional Medical Center in Salisbury, Maryland via the

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<sup>2</sup> This hourly cost is the FY 2012 hourly cost of \$48.00/hour with three years of projected inflation of 3%.



UMES in Princess Anne, Maryland. The route would originate in the Town of Chincoteague and travel north through the region, following US-13. It would also circulate around Salisbury before making its return trip. The route would take 1½ to 2 hours (one-way) and cover about 50 miles, resulting in a 100-mile round trip. Two round trips per day are proposed for the Chincoteague to Salisbury Connector. Similar to the Route 13 Business Corridor Route, STAR Transit would be under contract to operate this service.

- Using the FY 2012 operating cost per hour of \$48.00, two contracted vehicles from STAR Transit would be utilized and each would operate six hours per weekday, roughly from 8:00 a.m. to 2:00 p.m. and 11:00 a.m. to 5:00 p.m. respectively. Assuming 250 days of service, the total annual revenue service hours would be 3,000. The fully allocated annual operating cost would be \$144,000 annually.
- It is proposed that this deficit be split up to 50% Federal Section 5311, 45% state, and 5% local using New Freedom Program funds.
- It is estimated that this route could provide four passenger trips per revenue hour. This estimate is based on the experiences of STAR Transit (6 trips per revenue hour), scaled down to reflect lower expectations for a new route. If the route generates four passenger trips per revenue hour, the annual ridership would be just over 12,000 passenger trips.

## **RECOMMENDATION: ON-GOING TRANSIT ADVISORY COMMITTEE (TAC)**

The Town of Chincoteague does not currently have a TAC in place. Many transit agencies have found that it is helpful for them to have a TAC beyond just the requirements for a TDP. A TAC is comprised of community stakeholders who have an interest in preserving and enhancing transit in the community.

The role of a TAC is to help the transit program better meet mobility needs in the community by serving as a link between the citizens served by the various entities and public transportation. A TAC is a good community outreach tool for transit programs, as having an ongoing dialogue with stakeholders allows for a greater understanding for transit staff of transit needs in the community, as well as greater understanding by the community of the various constraints faced by the transit program. TAC also typically serve in an advisory capacity for other transit initiatives. The role of the Town Council would remain unchanged in that they would still be the ultimate guide for the Pony Express, however the TAC would alleviate some of the burden on the Council.

For the Town of Chincoteague, it is suggested that the TDP's TAC continue beyond the study, serving in an advisory capacity for the Pony Express. This will allow for enhanced local and regional coordination, enabling transit needs to be met in the most effective manner. It is proposed that this TAC meet twice a year -- once prior to the grant cycle so that new initiatives can be coordinated, and once mid-way through the funding year.

## Chapter 6

# Capital Improvement Plan

### INTRODUCTION

This section of the TDP describes the major capital projects (vehicles, facilities, and equipment) needed to support the provision of public transportation in the Town of Chincoteague for the six-year period covered by this TDP. The Operations Plan does not contemplate major expansions, as such, the capital improvement plan is modest in scope.

### VEHICLE REPLACEMENT AND EXPANSION PROGRAM

The vehicle inventory in Chapter 1 shows that the Town of Chincoteague owns four Section 5311-funded vehicles; three of which are trolley buses; and one of which is a minivan. Two of the three trolleys are scheduled to be replaced in FY 2012, while the remaining trolley functions as a spare. While the trolleys have not met their useful life cycle requirements, the wheelchair lifts are first generation ADA compliant units and have been plagued with down time. Additionally, the air conditioning units have created excessive downtime for needed repairs. Due to the small number of trolleys in the fleet, the maintenance costs and loss of service due to older model vehicles has proven to be an insurmountable limitation on the Pony Express trolley system.

The vehicle inventory, with the estimated replacement years is provided as Table 6-1. This TDP has included additional hours and days of service, but does not include any projects that require additional vehicles, so a vehicle expansion plan has not been included.

**Table 6-1: Town of Chincoteague Transit Vehicle Inventory and Replacement Schedule**

VIN	Model Year	Manufacturer	Model and Type	Seating Capacity	Wheel-chair Stations	Use	Mileage	Estimated Replacement Year
4UZAACBWX2CK14530	2003	Freightliner	Trolley	26	2	Back-Up	138,154	N/A
1F6NF53S340A10898	2004	Ford	Trolley	26	2	Regular Route	42,248	2012
1F6NF53S540A10899	2005	Ford	Trolley	14	2	Regular Route	42,970	2012
1D4GP24E07B176673	2007	Dodge	Minivan	5	4	Route Deviations	31,270	2014

## **FACILITIES**

The Town of Chincoteague is not currently in need of any additions to its operating and maintenance facility. Modest budget amounts have been included in each year's capital budget for shop equipment (see Chapter 7).

## **PASSENGER FACILITIES AND INFORMATION**

The plan does call for the addition of trolley stop signs for the two new permanent stops, as well as "You are Here" signs at each trolley stop. Funds are also included each year after the initial purchase of bus stop signs for upkeep and replacement of signs. These projects are included in the financial plan (Chapter 7).



## Chapter 7

### Financial Plan

#### INTRODUCTION

This chapter provides a financial plan for funding existing and proposed transit services in the Town of Chincoteague service area for the six-year planning period. It should be noted that there are currently a number of unknown factors that will likely affect transit finance in this area over the course of this planning period, including the reauthorization of the federal transportation program, the future economic condition of the Town and the Commonwealth of Virginia, and the availability of local match for the federal and state funds. The budgets were constructed with the information that is currently available, including the DRPT Statewide Transportation Improvement Program, the FY 2012 DRPT grant, and the Town of Chincoteague's Pony Express FY 2012 transportation budget. The funding ratios are based on historical funding ratios for rural transit programs in the Commonwealth. The exact revenue available each year will be dependent upon the availability of funding from the Federal Section 5311 program, the Commonwealth Transportation Fund, and local sources.

It should be recognized that the local funding match for service is provided by the Town of Chincoteague; without this local match there would be no transit in Chincoteague or for the planned service off the island. Proposed expansion of transit services to areas outside the Town would require further financial participation by either the Town or Accomack County.

#### OPERATING EXPENSES AND FUNDING SOURCES

Table 7-1 provides a financial plan for operation of the Town of Chincoteague's transit services under the financially-constrained six-year plan, and Table 7-2 presents the financial plan for operations under the vision plan. As discussed in the Operations Plan (Chapter 5), the financially constrained plan projects are modest in scope, reflecting the current economic climate and the current funding partnerships that

**Table 7-1: Town of Chincoteague TDP Financial Plan for Operations - Financially Constrained**

<b>Projects (1)</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<i><b>Current Annual Revenue Hours</b></i>	1,091	1,091	1,091	1,091	1,091	1,091
Increased marketing	-	-	-	-	-	-
Expanded service days	-	-	-	-	-	-
Additional hour of service - "peak" season				126	126	126
Additional hour of service - "off-peak" season					59	59
Minor route adjustment to the Red Route			-	-	-	-
Add two trolley stops			-	-	-	-
Mid-day run for the Town of Chincoteague-Route 13 Business Corridor			-	-	-	-
<b>Total Transit Service Hours</b>	<b>1,091</b>	<b>1,091</b>	<b>1,091</b>	<b>1,217</b>	<b>1,276</b>	<b>1,276</b>
<i><b>Projected Operating Expenses</b></i>						
Cost Per Revenue Hour	\$ 69.11	\$ 73.48	\$ 73.78	\$ 75.93	\$ 78.18	\$ 84.04
Operating Expenses - Current Level of Service (3)	\$ 75,400	\$ 77,662	\$ 79,992	\$ 82,392	\$ 84,863	\$ 87,409
Increased marketing	\$ 2,500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 5,000
Expanded service days	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Additional hour of service - "peak" season				\$ 9,515	\$ 9,801	\$ 10,095
Additional hour of service - "off-peak" season					\$ 4,589	\$ 4,727
Minor route adjustment to the Red Route			\$ -	\$ -	\$ -	\$ -
Add two trolley stops			\$ -	\$ -	\$ -	\$ -
Mid-day run for the Town of Chincoteague-Route 13 Business Corridor				\$ 32,782	\$ 33,765	\$ 34,778
<b>Total Projected Operating Expenses</b>	<b>\$ 75,400</b>	<b>\$ 80,162</b>	<b>\$ 80,492</b>	<b>\$ 125,189</b>	<b>\$ 133,519</b>	<b>\$ 142,009</b>

*Notes:*

(1) Implementation years are estimated. Implementation will be based on funding availability.

(2) Estimated at 1,091 revenue hours is based on the average of Fiscal Years 2008, 2009, and 2010

(3) STAR Transit FY 2012 cost per hour = \$48

(4) Assumes 3% rate of inflation each year.



**Table 7-1 (continued)**

<b>Anticipated Funding Sources</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<i>Federal</i>						
Section 5311	\$ 34,450	\$ 35,625	\$ 37,026	\$ 41,196	\$ 44,536	\$ 47,935
Section 5317				\$ 16,391	\$ 16,883	\$ 17,389
RTAP		\$ 2,500				
Subtotal, Federal	\$ 34,450	\$ 38,125	\$ 37,026	\$ 57,587	\$ 61,419	\$ 65,324
<i>State</i>						
Formula Assistance	\$ 10,335	\$ 11,062	\$ 11,108	\$ 17,276	\$ 18,426	\$ 19,597
Section 5317				\$ 14,752	\$ 15,194	\$ 15,650
Subtotal, State	\$ 10,335	\$ 11,062	\$ 11,108	\$ 32,028	\$ 33,620	\$ 35,247
<i>Local</i>						
Local Contribution	\$ 24,115	\$ 24,562	\$ 25,918	\$ 40,311	\$ 42,993	\$ 45,727
Revenues- Farebox (1)	\$ 6,500	\$ 6,413	\$ 6,439	\$ 10,015	\$ 10,681	\$ 11,361
Total Local	\$ 30,615	\$ 30,975	\$ 32,358	\$ 50,326	\$ 53,674	\$ 57,088
<b>Total Projected/Proposed Operating Funds/Revenues</b>	<b>\$ 75,400</b>	<b>\$ 80,162</b>	<b>\$ 80,492</b>	<b>\$ 125,189</b>	<b>\$ 133,519</b>	<b>\$ 142,009</b>

Notes:

(1) Maintained from FY 2012 at 8%.

**Table 7-2: Town of Chincoteague TDP Financial Plan for Operations - Vision**

<b>Projects</b>	<b>FY 2012</b>	<b>Phase 1</b>
<i>Current Annual Revenue Hours</i>	1,091	
Regional service to Salisbury, MD		-
<b>Total Transit Service Hours</b>	<b>1,091</b>	<b>-</b>
<i>Projected Operating Expenses</i>		
Cost Per Revenue Hour	\$ 69.11	
Regional service to Salisbury, MD		\$ 144,000
<b>Total Projected Operating Expenses</b>	<b>\$ 75,400</b>	<b>\$ 144,000</b>

*Notes:*

- (1) Implementation year is undetermined. Implementation will be based on funding availability.
- (2) Estimated at 1,091 revenue hours is based on the average of Fiscal Years 2008, 2009, and 2010
- (3) STAR Transit FY 2012 cost per hour = \$48
- (4) Assumes constant FY 2012 dollars due to undetermined timeline.

<b>Anticipated Funding Sources</b>	<b>FY 2012</b>	<b>Phase 1</b>
<i>Federal</i>		
Section 5311	\$ 34,450	\$ -
Section 5317		\$ 66,240
Subtotal, Federal	\$ 34,450	\$ 66,240
<i>State</i>		
Formula Assistance	\$ 10,335	
Section 5317		\$ 59,616
Subtotal, State	\$ 10,335	\$ 59,616
<i>Local</i>		
Local Contribution	\$ 24,115	\$ 66,240
Revenues- Farebox (1)	\$ 6,500	\$ 11,520
Total Local	\$ 30,615	\$ 77,760
<b>Total Projected/Proposed Operating Funds/Revenues</b>	<b>\$ 75,400</b>	<b>\$ 144,000</b>

*Notes:*

- (1) Maintained from FY 2012 at 8%.

provide the local match. As Table 7-1 indicates, the annual operating expenses for the Town of Chincoteague (including contracted service) are projected to grow from about \$75,400 to \$142,009 over the six-year planning period, including inflation at 3% per year, and a limited expansion in service hours.

Table 7-2 details the sole project in the vision plan, which is not constrained to reflect the availability of funding. If one assumes that the vision project is implemented, the total annual budget for transit service would grow by \$144,000 (in FY 2012 dollars). The cost is calculated in constant FY 2012 dollars due to the undetermined timeline associated with the project.

Pending the reauthorization of SAFETEA-LU, we do not know what the level of federal transit funds will be, though it should be noted that they have generally risen with each transportation funding reauthorization. These funds are shown to increase with inflation, along with the expenses. A 3% annual rate of inflation has been applied, along with additional modest increases to reflect additional hours of service and a new staff position. State funds are also included, using the typical current funding level, which is about 15% of the net deficit.

## **VEHICLE PURCHASE EXPENSES AND FUNDING SOURCES**

Table 7-3 offers the financial plan for vehicle replacement over the six-year period. As discussed in Chapters 5 and 6, this plan does not include the need to increase the size of the fleet. The funding split is generally assumed to be 80% federal, 10% state, and 10% local. The plan includes a total of five replacement vehicles.

## **FACILITY IMPROVEMENT EXPENSES AND FUNDING SOURCES**

The financial plan for facilities, equipment, and other capital is provided in Table 7-4. These expenses are those associated with passenger amenity and information improvements, as well as tools and routine computer upgrades. These expenses are also assumed to be funded with federal (80%), state (10%), and local (10%) funds.

**Table 7-3: Town of Chincoteague Transit TDP Financial Plan for Vehicle Replacement and Expansion**

Number of Vehicles	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Replacement	2	0	1	0	0	0
Expansion	0	0	0	0	0	0
Total Vehicles	2	0	1	0	0	0

*Vehicle Costs*

Replacement	\$	320,000		\$	26,523		\$	-	\$	-
Expansion	\$	-	\$	-	\$	-	\$	-	\$	-
Total Projected Vehicle Costs	\$	320,000	\$	-	\$	26,523	\$	-	\$	-

*Anticipated Funding Sources*

Federal	\$	256,000	\$	-	\$	21,218	\$	-	\$	-
State	\$	32,000	\$	-	\$	2,652	\$	-	\$	-
Local	\$	32,000	\$	-	\$	2,652	\$	-	\$	-
Total Vehicle Funding	\$	320,000	\$	-	\$	26,523	\$	-	\$	-

**Table 7-4: Town of Chincoteague Transit TDP Financial Plan for Facilities, Equipment, and Other Capital**

<b>Projects</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Miscellaneous Technology Equipment	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	
Shop Equipment, Tools, Miscellaneous Equipment	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580
Bus Stop Signs	\$ -	\$ 2,575	\$ 106	\$ 109	\$ 113	\$ 116
<b>Total Projected Non-Vehicle Capital Expenses</b>	<b>\$ 500</b>	<b>\$ 3,193</b>	<b>\$ 743</b>	<b>\$ 765</b>	<b>\$ 788</b>	<b>\$ 811</b>
<b>Anticipated Funding Sources</b>						
Federal	\$ 400	\$ 2,554	\$ 594	\$ 612	\$ 630	\$ 649
State	\$ 50	\$ 319	\$ 74	\$ 76	\$ 79	\$ 81
Local	\$ 50	\$ 319	\$ 74	\$ 76	\$ 79	\$ 81
<b>Total Projected Non-Vehicle Capital Revenue</b>	<b>\$ 500</b>	<b>\$ 3,193</b>	<b>\$ 743</b>	<b>\$ 765</b>	<b>\$ 788</b>	<b>\$ 811</b>



## **Chapter 8**

# **TDP Monitoring and Evaluation**

### **INTRODUCTION**

The Town of Chincoteague TDP has included the following tasks:

- Detailed documentation and analysis of current public transportation services;
- A peer review showing the service and financial characteristics of transit programs similar in scope to the Pony Express;
- A transit needs analysis, including demographic analysis, land use analysis, a review of relevant planning documents, stakeholder interviews, and rider surveys;
- The development of service and organizational alternatives;
- The development of recommendations for transit improvements for inclusion in the TDP, with improvements tentatively identified by year; and
- A financial plan highlighting the funding requirements and potential funding sources for the recommended transit improvements in the region.

The plan is modest in nature, but does include some growth. The financially constrained projects included in this TDP are attached to particular years, but all of the projects are contingent on future funding. This TDP may need to be updated during the six-year planning period to reflect funding availability. This TDP will need to be formally adopted by the Chincoteague Town Council.

## **COORDINATION WITH OTHER PLANS AND PROGRAMS**

The study team for this TDP consulted a number of relevant plans and programs during the development of the six-year plan. The following documents were reviewed, with their associated recommendations incorporated where appropriate:

- Accomack-Norhampton Coordinated Human Service Mobility Plan
- Town of Chincoteague Comprehensive Plan 2010
- A-NPDC 2035 Regional Long Range Transportation Plan
- STAR Transit's Transit Development Plan
- Eastern Shore Alternative Transportation Mode Study
- Chincoteague National Wildlife Refuge Alternative Transportation Study
- Town of Chincoteague's Questionnaire on the use of Assateague Beach
- Town of Chincoteague Bicycle Plan
- Eastern Shore of Virginia Bicycle Plan
- Statewide Transportation Improvement Plan

The projects included in this TDP should be reflected in these area plans and studies as they are updated. The formation of a formal TAC is recommended as a means to provide a mechanism to ensure that the projects incorporated within this TDP are included in internal and external plans in the Chincoteague region and statewide (where appropriate). As mentioned in previous chapters, the recommended projects from this TDP will need to be incorporated into the public transportation element of the DRPT State Transportation Improvement Program (STIP).

## **SERVICE PERFORMANCE MONITORING**

A number of proposed service standards were developed for the Town of Chincoteague's Pony Express (Chapter 2) for this TDP. The purpose of including these standards was to develop some objective measurements of performance that the Town of Chincoteague can use to monitor transit services in the future and make objective, performance-based service planning decisions. It is recommended that the Town of Chincoteague monitor performance monthly, comparing performance to the same month of the previous year (to account for seasonal variations), and comparing trends in monthly data.



## ANNUAL TDP MONITORING

For this TDP it is particularly important that the Town of Chincoteague monitor the progress each fiscal year. Projects may also need to shift from one year to the next if funding is not available. Alternatively, if the reauthorization of the federal transportation funding program is more generous than SAFETEA-LU (the current federal transportation authorizing legislation), projects could potentially be implemented ahead of schedule or additional projects could be added to the TDP.

DRPT guidance currently requires that grantees submit an annual TDP update letter that describes the progress that has been made toward implementing the adopted TDP. This letter should include the following elements:

- Operating statistics for the 12-month period, including the ridership attributed to any new proposals implemented as a result of the TDP.
- Any changes to system goals, objectives, or service standards.
- A description of any service or facility improvements that have been implemented during the 12-month period.
- An update to the TDP recommendations to identify additional projects, deferment of projects to later years, or elimination of projects.
- Updates to the financial plan to more accurately reflect current funding scenarios.

The proposed Town of Chincoteague TAC would review system performance, compare performance to the goals and objectives, determine any needed changes in the goals and objectives, review proposed TDP projects and the availability of resources to accomplish them, and recommend any needed changes in either the goals and objectives or the TDP to the Town Council for inclusion in the annual TDP update letter described above.



# **Appendix A**

## **On-Board Rider Survey**



## TOWN OF CHINCOTEAGUE – RIDE THE PONY EXPRESS ON-BOARD RIDER SURVEY

The Town of Chincoteague would like rider input! Please complete this rider survey and return it to the surveyor when you get off the trolley. If you have already filled out a survey, you do not need to fill this out again.

**Thank you!**

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1. What route are you currently riding? ☐ (1) Green Route ☐ (2) Red Route
  2. What was the location where you boarded the trolley? Please indicate the street address, intersection, building, or landmark. *For example, Memorial Park.*  
\_\_\_\_\_
  3. What is your destination? Please indicate the street address, intersection, building, or landmark. *For example, Oyster Museum.*  
\_\_\_\_\_
  4. How did you find out about the trolley service?  
☐ (1) Asked someone ☐ (2) Website ☐ (3) Asked trolley driver  
☐ (4) Brochure ☐ (5) Other: \_\_\_\_\_
  5. What is the purpose of your trolley trip today? You may check more than one.  
☐ (1) Social/Recreation ☐ (2) Medical/Dental ☐ (3) Shopping  
☐ (4) Work ☐ (5) Other: \_\_\_\_\_
  6. How often do you ride the trolley?  
☐ (1) 3 or more times a **week** ☐ (2) 1-2 times a **week** ☐ (3) Less than once a **week**  
☐ (4) Once a **month** ☐ (5) Less than once a **month**
  7. Please indicate what times of the day you ride the trolley on a regular basis? Check all that apply.  
☐ (1) 5 pm – 6 pm ☐ (2) 6 pm – 7 pm ☐ (3) 8 pm – 9 pm ☐ (4) 9 pm – 10 pm
  8. If the Town of Chincoteague did not provide this trolley service, how would you make this trip?  
☐ (1) Drive myself ☐ (2) Walk ☐ (3) Bicycle  
☐ (4) Ride with someone ☐ (5) Taxi ☐ (6) Other: \_\_\_\_\_
  9. Please rate your satisfaction with the trolley service in the following areas:

	Always	Usually	Sometimes	Almost Never
	(1)	(2)	(3)	(4)
Service is reliable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service is convenient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trolleys are on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schedules are easy to use and understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drivers are safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drivers are friendly and helpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trolleys are comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trolleys are clean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The fare is affordable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  10. Are you:  
☐ (1) A full-time resident of the Town of Chincoteague ☐ (2) Tourist  
☐ (3) A summer resident of the Town of Chincoteague ☐ (4) Other: \_\_\_\_\_
  10. Is a car available to you here? ☐ (1) Yes ☐ (2) No
  11. Please indicate your age group.  
☐ (1) Under 12 ☐ (2) 12-17 ☐ (3) 18-25 ☐ (4) 26-55 ☐ (5) 56-64 ☐ (6) 65 or older
- 

Please provide any additional comments about the trolley service or needed improvements on the back.



## **Appendix B**

### **Transit Dependence Index**





## Appendix B: Transit Dependence Index (TDI)

Public transportation needs are defined in part by identifying the relative size and location of those segments within the general population most likely to be dependent upon some form of public transit services. Once the location of these transit dependent populations is determined and analyzed, it becomes possible to evaluate the extent to which current services meet the needs of community residents. To identify the areas of highest transportation need, the TDI was calculated for each of the Census Block Groups in the Town of Chincoteague study area.

The TDI is an aggregate measure that utilizes recent data from the American Community Survey (ACS) five-year estimates and the United State Decennial Census to display relative concentrations of transit dependent populations within a study area. The following section describes the formula used to compute the TDI for each of these block groups, as well as a brief description of the six factors used in its calculation.

$$\text{TDI} = \text{PD} * (\text{AVNV} + \text{AVE} + \text{AVY} + \text{AVD} + \text{AVBP})$$

- PD: population per square mile
- AVNV: amount of vulnerability based on presence of no vehicle households
- AVE: amount of vulnerability based on presence of elderly adult population
- AVY: amount of vulnerability based on presence of youth population
- AVD: amount of vulnerability based on presence of disabled population
- AVBP: amount of vulnerability based on presence of below-poverty population

The input values for the population density (PD) factor follow the previously mentioned classification scheme of the stand-alone population density analysis. A block group with a population density greater than 2,000 persons per square mile is presented a value of four, while a block group with a population density greater than 1,000 persons per square mile and less than or equal to 2,000 is given a PD factor of three. Continuing in intervals of 500, a block group with a population density greater than 500 and less than or equal to 1,000 persons per square mile is presented a PD factor of two, while a block group with less than or equal to 500 persons per square mile and at least one resident is given a value on one. In the event of a block group having zero residents, that particular block group is presented a value of zero.

The following five independent variables represent specific socioeconomic characteristics of the residents in the study area, which are described in the previous bullets. These five factors are given a value that represents their prevalence in the analyzed block group. For each of the factors, an individual block group comprised of a

number of vulnerable persons or households that is below the average number for all block groups in the study area is presented with a value of one. A value of two is given to a block group where its vulnerable population is greater or equal to the study area average (SAA), but less than one and one-third times the SAA. A block group with a vulnerable population greater or equal to one and one-third the SAA, but less than one and two-thirds the SAA is presented with a value of three. This scoring scheme continues for a block group with a vulnerable population greater than one and two-thirds the SAA, but less than twice the SAA for a block group, which is presented a value of four. Finally, any block group that has a vulnerable population or household population that is more than twice the SAA for a block group is given the highest value of five. Once this process is completed for each of the five socioeconomic characteristics, the factors are plugged into the TDI equation in order to determine the transit dependence for each block group within the study area. Each individual block group is then given a TDI classification (very low, low, moderate, high, or very high) that is assigned in a manner similar to the independent variables in the TDI. The difference being that the TDI or dependent variable value in the formula replaces the previously described socioeconomic characteristics or independent variables. Thus, a block group with a TDI below the average TDI score for a block group in the study area is given a value of one or categorization of very low, and so on.

## **Appendix C**

### **Transit Dependence Index Percent**



## Appendix C: Transit Dependence Index Percent (TDIP)

The TDIP provides a complementary analysis to the TDI measure and its reliance upon the population density factor. The TDIP measure is nearly identical to the TDI measure in every aspect with the lone exception being its exclusion of the persons per square mile (PD) factor. As a result, the TDIP for each block group in the Town of Chincoteague study area is calculated with the following formula and its five independent variables.

$$\text{TDIP} = \text{DVNV} + \text{DVE} + \text{DVY} + \text{DVD} + \text{DVBP}$$

- DVNV: degree of vulnerability based on presence of no vehicle households
- DVE: degree of vulnerability based on presence of elderly adult population
- DVY: degree of vulnerability based on presence of youth population
- DVD: degree of vulnerability based on presence of disabled population
- DVBP: degree of vulnerability based on presence of below-poverty population

Accordingly, the exclusion of the PD factor from the TDIP formula results in the maximum score a single block group may attain being lowered from 100, as is found in the previously described TDI measure, to a score of 25. By removing the PD factor, the TDIP measures the degree of vulnerability, or percent of individuals exemplifying a particular socioeconomic characteristic out of the overall general population of a block group, rather than the amount of vulnerability, or strictly aggregate number of individuals exemplifying a particular socioeconomic characteristic within a particular block group, that is measured by the TDI. This sole difference between the two indices enables the TDIP to represent a needs assessment that highlights the overall predominance of a specific population throughout a block group's general residence instead of a highlighting of those block groups that have a higher density of persons and consequently an increased chance of having a higher concentration of vulnerable populations simply due to an increase in the block group's overall population.

The five-tiered categorization found in the TDI measure is also utilized for the TDIP measure and is determined by use of the same criteria.



**Appendix D**

**Environmental Justice Index**





## Appendix D: Environmental Justice Index (EJI)

EJI is an aggregate measure that may be employed with mapping software to effectively display relative concentrations of racial and/or ethnic minorities and low-income residents throughout the study area. The structure for the EJI was introduced in a 2004 National Cooperative Highway Research Program report in order to offer “practitioners an analytical framework to facilitate comprehensive assessments of a proposed transportation project’s impacts on affected populations and communities.<sup>1</sup>” The application of the EJI within this needs assessment will ensure a high standard of social and economic equality, as outlined in Title VI of the Civil Rights Act of 1964, when evaluating potential modifications to the present public transportation services in the region.

Similar to both the TDI and TDIP, the data utilized for the EJI was compiled by the ACS’s five-year estimates, which enabled examination of socioeconomic characteristics at a block group level of analysis, and the United States Decennial Census, which provided the necessary geographic information (e.g., block group boundaries). The data employed by the EJI is described in the subsequent bulleted points, which follow the EJI formula and its three independent variables.

$$\text{EJI} = \text{PD} * \text{DVM} * \text{DVBP}$$

- PD: population per square mile
- DVM: degree of vulnerability based on presence of minority population
- DVBP: degree of vulnerability based on presence of below-poverty population

The EJI scoring system is nearly identical to the scoring system used by the TDI measure with the lone exception being the EJI measure’s utilization of two independent socioeconomic variables that are multiplied by the PD factor, which is different from the TDI measure’s use of five independent socioeconomic variables that are summed and multiplied by the PD factor. Subsequently, the score of the EJI will range from zero to 100, with a higher score indicating a block group where a larger proportion of minority

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<sup>1</sup>Forkenbrock, D. and Sheeley, J. 2004. *Effective Methods for Environmental Justice Assessment*. NCHRP Report 532. Transportation Research Board, National Research Council. Washington, DC: National Academy Press.

residents and/or low-income persons are present in an area with an increased population density. The score for the PD factor still ranges from zero to four, which was used in the TDI measure, and the score for the other two socioeconomic characteristics is determined in an equivalent manner as the five additional characteristics used in both the TDI and TDIP measures. Furthermore, the overall block group scores are then compared to the previously described SAA and each block group is accordingly placed into one of five categories (very low, low, moderate, high, or very high) within the classification scheme. This scheme is identical to the five-tier structure described in the TDI and TDIP measures.